SEP 30 '53

ATLANTIC FISHERMAN

SEPTEMBER 1953

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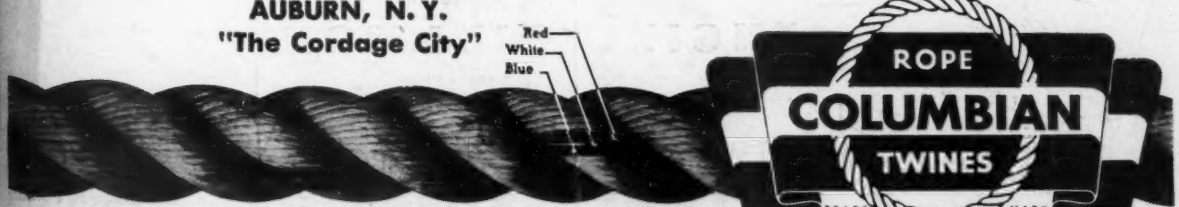
COLUMBIAN ROPE COMPANY
AUBURN, N. Y.
"The Cordage City"

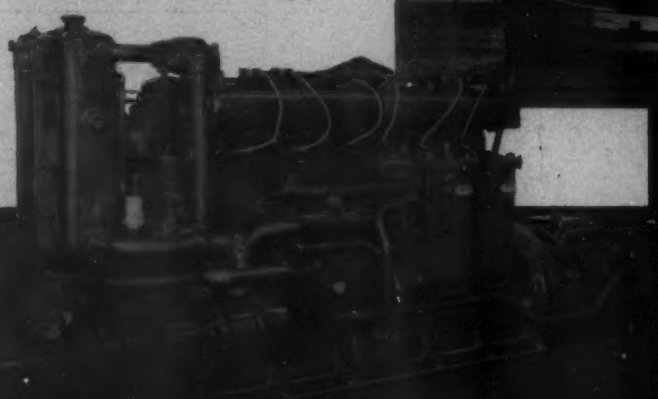


THE ROPE WITH THE RED, WHITE AND BLUE MARKERS

Boston Office and Warehouse — 38 Commercial Wharf

The "Eileen," veteran of 17 years in crab, salmon, tuna and shark fishing.

4-cycle Atlas Marine Diesel, embodying recently developed features, but the same type of Atlas engine which was installed when the "Eileen" was launched.



. . . "I have paid out on my Atlas Diesel . . . over the past 17 years . . . $162 (for parts) including labor and connecting rod bolts, eight bolts and nuts for connecting bearings.

"The pistons and the main bearings have never been touched and the engine has never been apart . . . and is still operating very satisfactorily."

Harry G. Olson
Owner

WITH ATLAS MARINE DIESEL

Naturally, in the 17 years since the "Eileen" was launched, Atlas and Superior Diesels have been constantly improved to keep pace with present-day marine requirements. In the development process every effort has been directed toward building Superior and Atlas engines which will give this same kind of service year in and year out. If you'd like a copy of Skipper Olson's letter, and a bulletin describing modern Atlas Diesels of the type which powers the "Eileen," just drop a note or postcard to Springfield.

Superior ENGINES — ATLAS Imperial DIESEL ENGINES

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In all marine service where space is at a premium and reliable power a must—Fairbanks-Morse Marine Diesels offer unequaled opportunity to save for more profit per trip.

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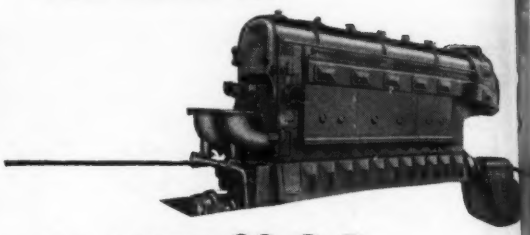
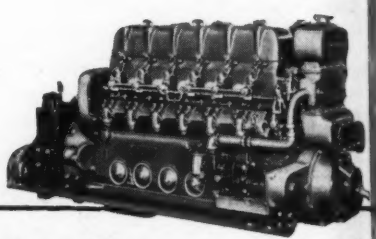


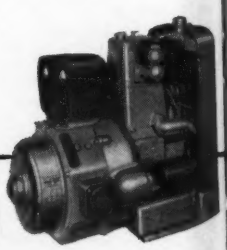
the MODEL 38 O-P

Two pistons in each cylinder—no valves, no cylinder heads—fewer moving parts—for longer life, easier maintenance at lower cost. Add its economy and proved dependability and you have the ideal engine for the broadest range of marine applications up to 2000 hp.



the MODEL 49

Featuring unitized cylinder design, simplifies operating and maintenance. Cylinder head and liner assembly is removed as a unit, without dropping the pan—makes overhaul an easy, inexpensive, half-day job. Built of light, strong, corrosion-resistant alloys, it packs more power per pound . . . brings you swift response, economy and dependability for propulsion or auxiliary service in the 40 to 150 hp. class.



the MODEL 45B

For the lowest cost auxiliary power available under the most demanding marine conditions. Simple in design, compact, easy to service, there is a model 45B ideally suited for your requirements in the 5 to 10 hp. range.

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Editorial

Pre-cooked and Breaded Fish Prove Popular

The production of consumer-size packages of frozen fish and shellfish has shown tremendous growth in the last few years. The availability of frozen fishery products in breaded and pre-cooked form has further accelerated the demand.

The ease with which these new products can be purchased, prepared and served is making them increasingly popular with the consumer. The sales opportunities offered the fishing industry by frozen breaded and pre-cooked fish were optimistically outlined at a recent meeting of the Central States Frozen Food Association by Robert J. Gruber of Fishery Products, Inc., Cleveland, Ohio, who said in part:

"Self-service meats gave a terrific boost to quick frozen fillets in fixed weight consumer packages. It was a natural—no shrink—no store packaging—no losses. Beyond that, the frozen food case protected the original quality by maintaining the frozen state all the way to the consumer's kitchen.

"Not much had been done to add convenience in the preparation of fish for either the institutional kitchen or our kitchens at home—and therein lies the key to the latest developments of packers and merchandisers of seafoods—breaded fish for the institutional trade; both breaded and fried fish, ready to heat and serve in the home.

"This came about from a realization that the present problem is not 'how to get people to eat more fish' but 'how to get more people to eat fish'—and the biggest ammunition was found right in the kitchen—increased ease of preparation and convenience in cooking and serving.

"Let's take a look first at the institutional field. Portion control has always been a bugaboo in fish simply because fish weren't manufactured to size—just couldn't be controlled that way. About a year ago we introduced our new line of breaded, graded-to-size fillets to help solve this portion control objective and this pack was extremely well received.

"Little wonder that this breaded product is creating the excitement it is in the mass feeding field. Heretofore it was largely the profit angle which prompted restaurants to feature fish. During the War it was the availability feature. Now with this new breaded product, we immediately add all four of these new features—portion control, no kitchen preparation, no defrosting necessary, individual portion cooking.

"Of one thing we can be sure, breaded fish for institutions and cooked for retail are here to stay, because through their convenience appeal they are accomplishing these primary objectives: (1) opening more outlets to serve fish, such as drug stores, drive-ins, etc. (2) causing more retail stores to sell fish, even the small delicatessen can be a fish specialty shop. (3) getting more people to eat fish.

"Yes, both breaded and cooked are here to stay and to grow. How big? Well, we saw what a tremendous impetus breaded shrimp gave that industry—revolutionizing it almost overnight. In my opinion, breaded fish can be even bigger. I believe that on it the fishing industry can pin its hopes of a greater market for the future."

It is readily apparent that the development of the breaded and pre-cooked fish business presents a golden opportunity for increasing fish consumption. It also imposes increased responsibility on the industry in providing top quality raw materials.

Breading and cooking cannot improve inferior quality fish. In order to have a desirable product—one that consumers will come back for—it is necessary to start with good fish. This can be assured only through careful, expeditious handling at every step of production, from the time the fish comes out of the sea until it is shipped to the consumer.

ATLANTIC FISHERMAN

REGISTERED U. S. PATENT OFFICE

Serving the Commercial Fishing Industry on Atlantic Coast, Gulf of Mexico, Great Lakes

VOL. XXXIV SEPTEMBER 1953 NO. 8

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Published monthly by
Atlantic Fisherman, Inc. – Goffstown, N. H.

P. G. LAMSON, President — GARDNER LAMSON, Publisher and Editor — A. E. BROWN, Managing Editor

Subscription rates, per year: United States, $3.00; Canada, $4.00; Foreign, $5.00. Single copies, 35 cents.

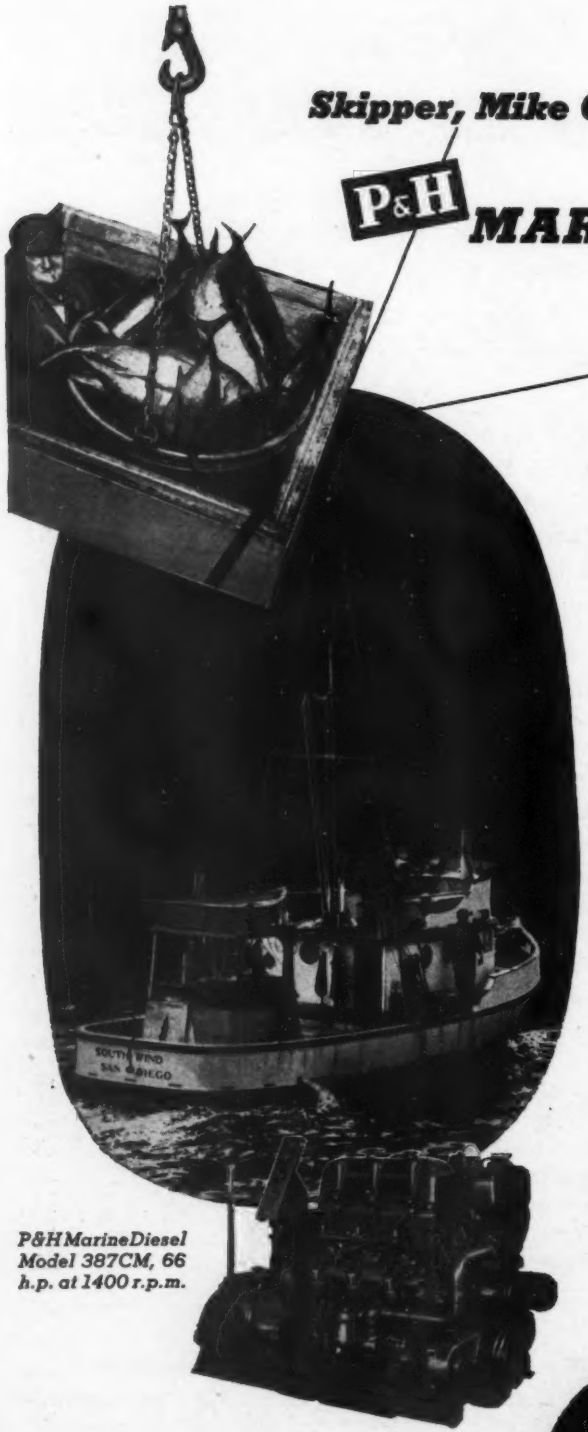
Acceptance under section 34.64, P.L.&R., authorized at Manchester, N. H.

CCA Member: Controlled Circulation Audit and National Business Publications, Inc. NBP

Advertising Representatives:
Kennedy Associates, 60 East 42nd St., New York 17, N. Y.
Murray Bothwell, 234 East Colorado St., Pasadena 1, Calif.

Skipper, Mike Cavanee says of his new

P&H MARINE DIESEL 2-cycle...



P&H Marine Diesel Model 387CM, 66 h.p. at 1400 r.p.m.

"I think it's one of the best engines there is!"

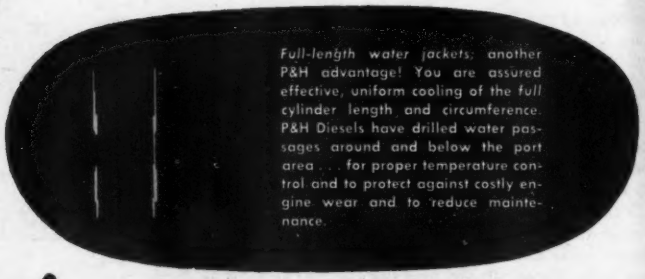
This man's talking from experience! Mike Cavanee of San Diego, California, is a veteran fisherman. He knows boats *and* diesels. So, you can be sure the P&H Model 387 CM Marine Diesel powering his 38 foot albacore boat is a real performer when he says:

> "I think it's one of the best engines there is. Since repowering with this P&H Marine Diesel, we have made two trips down the coast of Mexico, each time getting 5 tons, worth $1750. The first trip of 24 days we used 498 gallons in a total running time of around 300 hours.
>
> "For full power, or for slow trolling speed, we found the P&H Marine Diesel thoroughly dependable and completely satisfactory."

A fine report, Skipper Cavanee. Thank you. It's typical of what fishermen everywhere are saying about the performance and economy of P&H Marine Diesels. The reason is that *these* are more modern engines — America's newest designed diesels. They incorporate dozens of engineering advancements not found in any other diesels.

P&H Marine Diesels are two-cycle . . . *every* down stroke of the piston is a power stroke. They are simpler diesels, easier to understand and take care of. You can replace a complete cylinder head assembly in only 40 minutes — without dropping the pan! And, P&H Diesels give you more power for their size and weight. That means larger payloads.

Get all the facts on P&H Marine Diesels. Models from 20 to 138 h.p., 2, 3, 4 and 6 cylinders. See your P&H representative or write us.



Full-length water jackets: another P&H advantage! You are assured effective, uniform cooling of the full cylinder length and circumference. P&H Diesels have drilled water passages around and below the port area . . . for proper temperature control and to protect against costly engine wear and to reduce maintenance.

P&H DIESEL ENGINE DIVISION
HARNISCHFEGER CORPORATION
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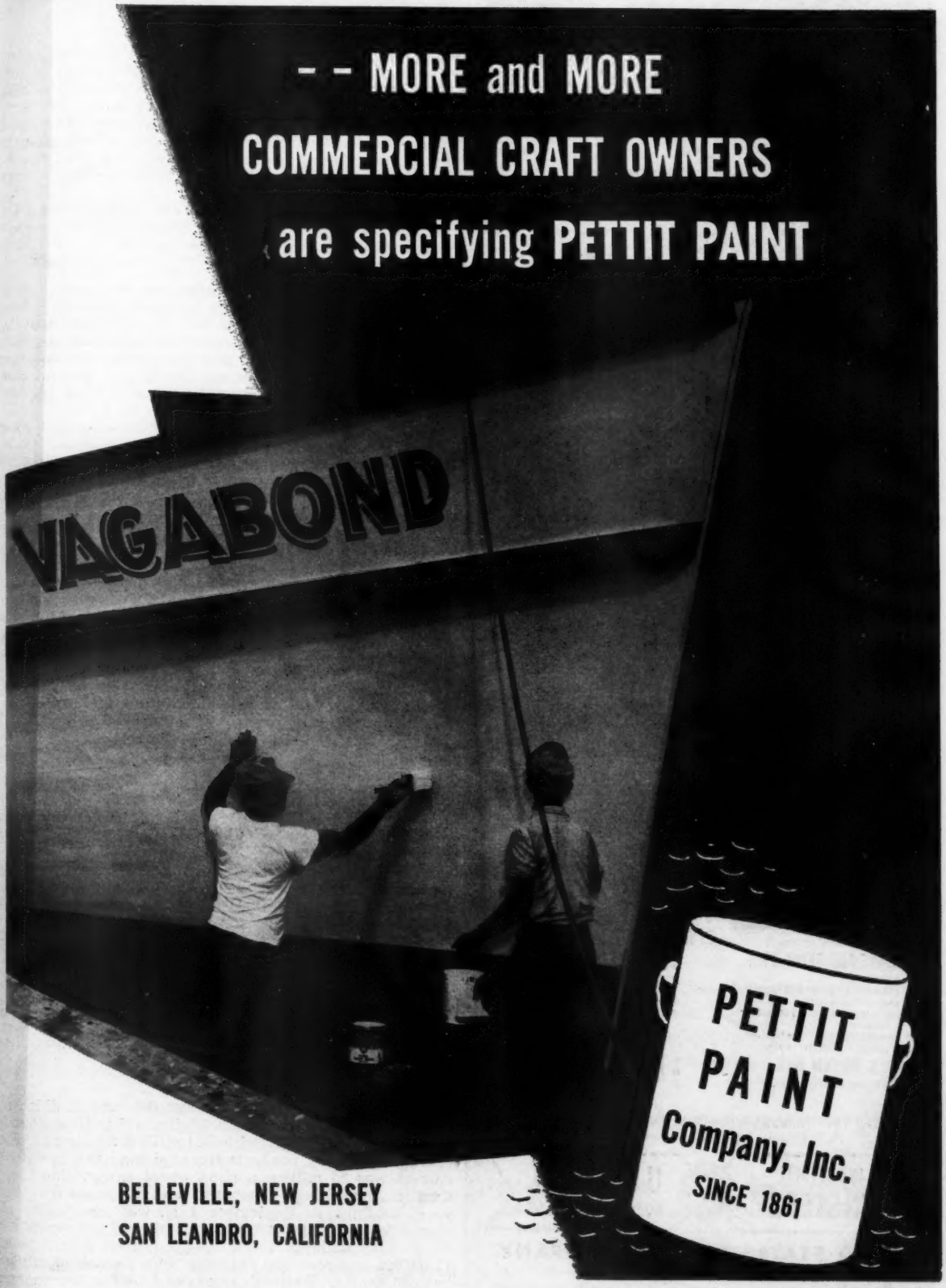
the P&H *Line*

For maximum protection, beauty and value



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Sounding-Lead

Smaller imports of fillets are reported for this year. During the first seven months of 1953, imports of cod, haddock, hake, pollock, cusk and ocean perch fillets were 55,297,000 lbs., compared to 66,631,000 lbs. in the same period of 1952, a decrease of 17 per cent. The largest shipper of imported fillets was Canada, which sent in 36 million pounds this year, followed by Iceland with 16 million, Norway with 2 million and West Germany with 1 million.

Total imports of fresh, frozen and canned shrimp for the first six months of this year were 18,891,289 lbs. compared with 19,249,887 lbs. for the first 6 months of 1952.

Joint fillet promotion program was discussed in Boston, Mass. on August 12th by 36 representatives of fillet industry, including processors from United States, Canada, Iceland and Norway. After reports of individual members and general discussion of program, it was decided that assessment of ¼ cent was not practical at present time and that ⅛ cent would provide sufficient funds for first year.

It was unanimously agreed that most important point was to get promotion program started as soon as possible. Beginning of program is contingent upon participation of 75% of production of fresh and frozen fillets of U. S. processors and 75% of U. S. sales of processors from Canada, Iceland and Norway.

F. M. Bundy of Gloucester, Mass., who is president of National Fisheries Institute, acted as chairman of meeting and appointed task committee to solicit members of industry for sufficient commitments so that permanent committee can be appointed and program be put into operation by Fall. Target date of one month, September 12th, was fixed to reach goal.

The Gloucester, Mass. Fisheries Association already has voted to assess their membership 5¢ per 100 lbs. on all fish landings, and cash collections were begun on August 17th. This assessment will provide ample funds to meet Gloucester's commitment for ⅛ cent per pound on fresh and frozen fillets and leave money for other Association expenses.

Fisheries research program of Technological Section of U. S. Fish & Wildlife Service for fiscal year 1954 has been announced by A. W. Anderson, chief, Branch of Commercial Fisheries.

In North Atlantic area, following projects will get attention: freezing fish at sea, defrosting, filleting and refreezing the fillets; utilization of viscera from round (whole) fish; and quality standards for haddock fillets.

Projects for Middle and South Atlantic include: development of dried product from condensed menhaden solubles or stickwater; vitamin content and nutritive value of fishery by-products; comparison of nutritive value of fish and meat; preparation of a manual on refrigeration of fish; investigation of toughening of frozen blue crab (Cooperative project sponsored by The Refrigeration Research Foundation).

Cold storage holdings of frozen fish and shellfish in the United States and Alaska totalled 175 million pounds on September 1, compared to 184 million a year ago. The amount of fishery products frozen during the month of August was 35 million pounds, about one million more than in August 1952. Compared with the same date last year, holdings on September 1 showed practically no change for shrimp at 12 million pounds and ocean perch at 18 million. Haddock fillets dropped over a million to 11,409,000 and cod fillet holdings were reduced 6 million to 9,450,000 lbs. Whitefish stocks of 2,237,000 lbs. showed

a half-million-pound gain, while the frozen scallop inventory of 4,101,000 lbs. was double that of a year ago.

New mid-water trawl developed and perfected by California Department of Fish and Game has opened an almost untouched zone of Pacific Ocean to commercial fishing and research. Using giant net towed behind powerful State marine research vessel, fisheries workers are now able to fish at almost any desired depth in ocean. Until now, most ocean fishing has been concentrated in two zones—near the surface and along the bottom.

New device, which can be used with standard otter trawl gear, operates on same principle as parachute. Four quarter doors, or small kite-like deflectors at corners of net, are forced outward as net is towed through water. Pulling against each other, they stretch mouth of net tight. The modification eliminates fish-scaring bridle which runs in front of ring-type net and earlier adaptations of mid-water trawl. Only the amount of cable available limits depth at which new rig can be towed. State workers already have made successful catches of rockfish, hake, black cod and other middle-depth fish.

Largest individual shrimp beds in world have been discovered over last five years in Disko Bay, Greenland, according to report made recently by Dr. Paul Marinus of Denmark to Northwest Atlantic Fisheries Commission. Disko Bay is well within Arctic Circle. Each of grounds is 10 miles long and 5 miles wide.

NFI's By-Products Director, Wayne Waller, has resigned to accept position of manager of Baltimore branch of H. J. Baker & Brothers, one of whose specialties is marine feed products. Waller's post with the National Fisheries Institute will be filled temporarily by Mal Xavier, who has been named Acting Director of By-Products Division. In this way it will be possible to continue Division's work without interruption pending selection of new permanent director.

Bids for fishing vessels for Korea should be submitted no later than September 30 to Procurement Division, United Nations Korean Reconstruction Agency, United Nations Bldgs., New York, N.Y. UNKRA advises that they will deal directly with owners, and that they do not have sales agents in the field for purchasing fishing vessels.

Total of 29 fishing vessels are sought, and these may be either new or used. Shipbuilders may send quotations for new construction, or owners of used vessels may quote sale prices. All bids must be firm quotations. Type of vessels being sought are: fourteen 75-ton wooden trawlers, ten 30-ton purse seiners, and five 50-ton fish carriers.

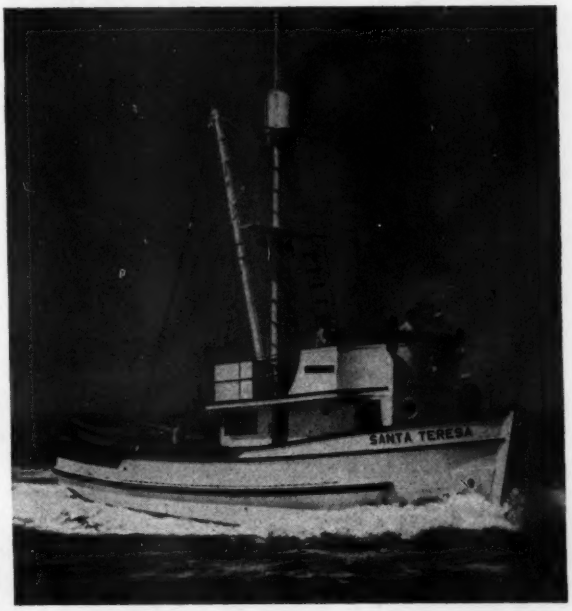
School for fishermen will be opened next year at the South African Naval Gymnasium at Saldanha Bay. It will provide competent and well-trained fishermen for boats. Trainees will receive instruction in navigation, seamanship, engine maintenance, signaling, tending nets, and in several other aspects of fishing. Another course will provide training for work ashore, covering fisheries science, plant operation, accounting, fisheries economics, etc.

The school will be open to qualified young men between the ages of 16 and 22, and training will require one year. The program represents the culmination of 20 years' effort by leaders in the fishing industry to develop schools for fishermen.

International Fishing Vessel Congress of the Food and Agriculture Organization of the United Nations will be held at the Delano Hotel, Miami Beach, Fla., November 16-20 in conjunction with the 6th Annual Session of the Gulf and Caribbean Fisheries Institute.

Thirty technical papers will be presented, covering fishing boat design, construction, financing, powering and refrigeration, as well as developments in fishing methods. Architects, builders, equipment manufacturers, fishery technicians and boat owners from various countries of the world will be in attendance.

DEPENDABLE



"never lost a day's fishing with **S-N MARINE GEARS..."**

"We have been operating the Santa Teresa (a Southern California Purse Seiner) for three years and we've never lost a single day's fishing because of our S-N Reverse and Reduction Gear" say owners John Sima and Tony Zangaro. Completed in 1949, the Santa Teresa is equipped with 135 H.P. Atlas Imperial Diesel and S-N double cone clutch, with balanced reverse gearing which transmits 100% of the engine speed and power smoothly-plus heavy duty herringbone reduction gearing. All combine to insure complete dependability, ease of operation and maximum efficiency.

S-N Manual — Hydraulic — Air Operated Gears
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FOR NEARLY HALF A CENTURY

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When nets increase your catch and—at the same time—cut down your handling cost since they're lighter in weight and easier to handle—then *you can't afford NOT to use them!* That's why more and more fishermen are using *ONLY* nets made of genuine NYLOCK Nylon Netting. How about you?

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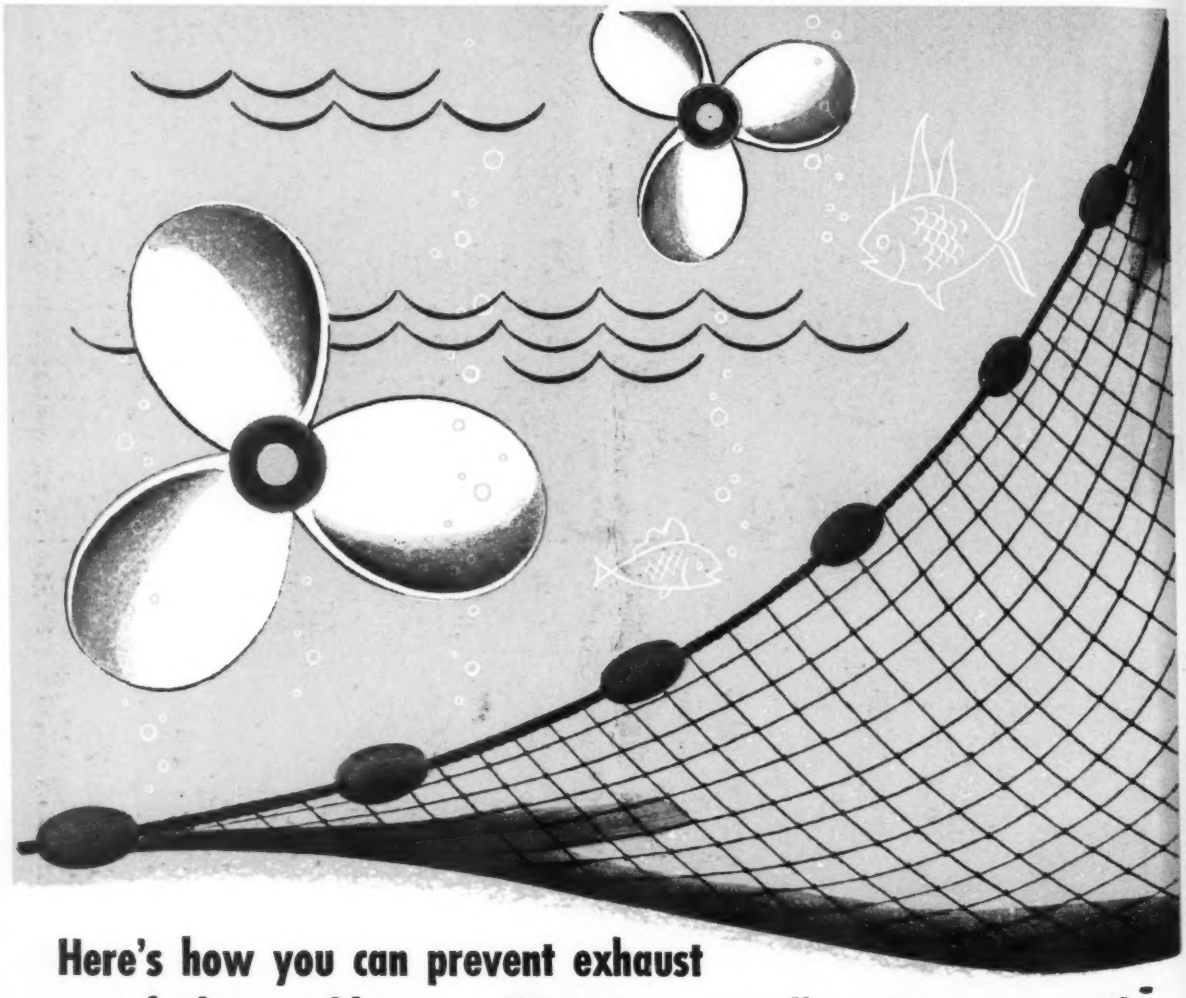

Here's how you can prevent exhaust port-fouling problems . . . Minimize over-all engine wear with

SHELL TALONA OIL

Now—by using Shell Talona Oil, operators of fishing craft find they completely eliminate port-fouling problems and at the same time minimize engine wear. Continued use of Shell Talona Oil has lengthened time between overhauls to an extent formerly thought impossible.

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6. **Maximum resistance to foaming**

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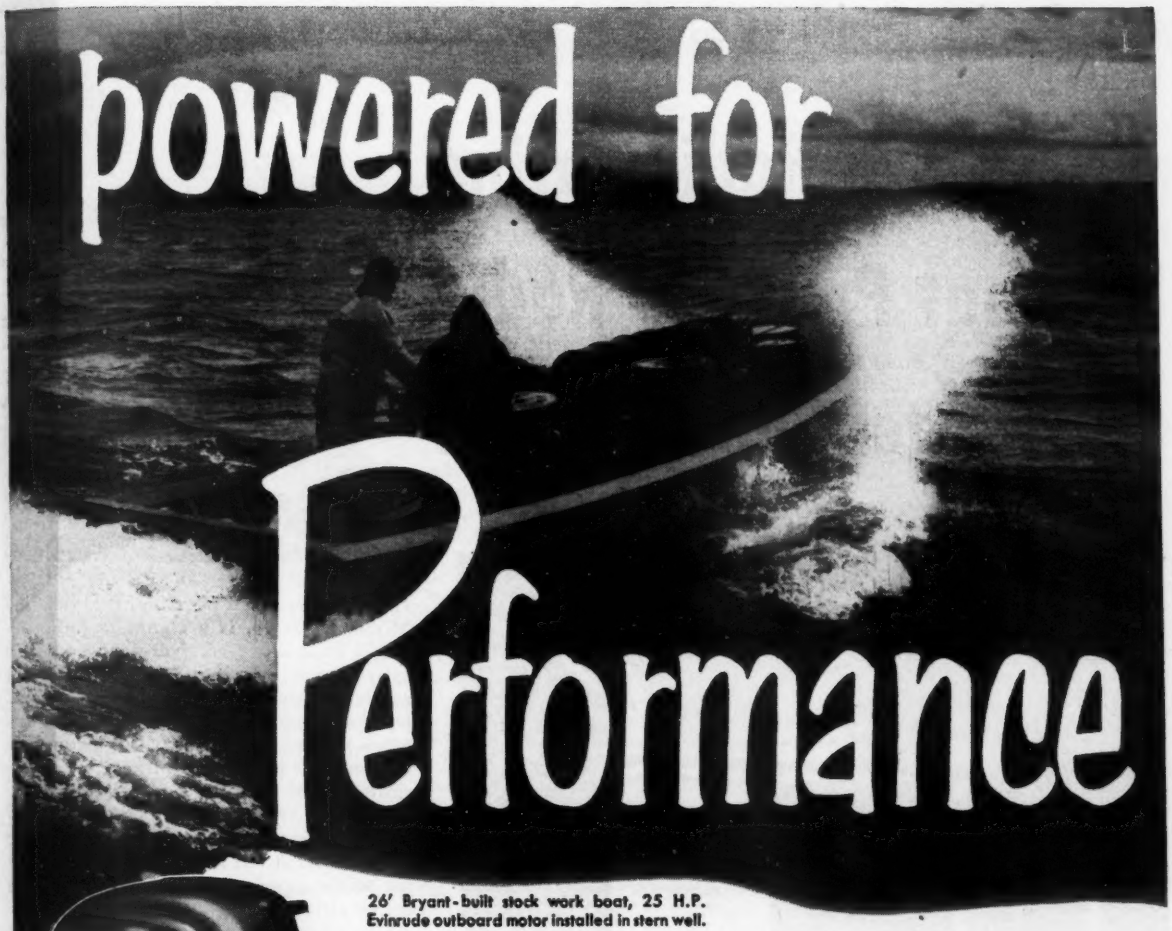

26' Bryant-built stock work boat, 25 H.P. Evinrude outboard motor installed in stern well.

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25 O.B.C. certified B.H.P. at 4,000 R.P.M. Gearshift, separate plug-in fuel tank. Prices, F.O.B. factory, subject to change without notice.

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Mackerel Breeding Stocks Need Protection

By Eric Hardy

ONCE the home of the largest mackerel fishery in the world, Massachusetts and Maine have a special interest in the future of the mackerel populations of the Atlantic. Knowledge of this fast-swimming, tasty denizen of the warm Summer waters has progressed considerably since Canada and the United States used to dispute their rights to fish the mackerel schools in the St. Lawrence estuary. Not many people nowadays hold the theory advanced before the last World War by Prof. Wardle of Manitoba University, that the eastern U. S. mackerel fishery declined when mackerel left the West side of the Atlantic and migrated to the European side.

The mackerel on both sides of the Atlantic are the same species; but they don't interbreed, or cross like the *Queen Mary* from side to side. The Pacific mackerel, of course, is a different species, yet the reasons for its decline are probably the same as those for the decrease of Atlantic catches in the twentieth century—over-fishing of the breeding stocks or biological races which form the mackerel population.

The waters of the Atlantic have steadily grown a little warmer in the first half of this century, just as the general temperature of the northern hemisphere has grown a shade warmer even in Greenland and Iceland. This should have favored the mackerel, a warmer-water fish, just as it favored the nesting populations of herring-gulls, which increased and spread further north. The Gulf Stream, from the Florida Current to the Atlantic Current, hasn't changed materially to affect the fish which depend upon it for warm water. The northern edge of the Gulf Stream has made shifts of as much as 190 miles, yet these were not permanent ones, only somewhat cyclic.

Twenty-four Species of Mackerel

There are twenty-four different mackerel species in the world. Eight of these inhabit the North American Atlantic waters: the frigate mackerel, the kingfish mackerel or wahoo, the true mackerel, the chub or colj mackerel (which is the British "Spanish mackerel"), the king mackerel, and three Spanish mackerels. Horse mackerel, jack mackerel and mackerel-guides aren't true mackerel.

The commercially important one in the Atlantic is *Scomber scombrus*. This species inhabits the North Atlantic, the Baltic, the Mediterranean and the Black Sea. Its range is as far north as Norway, and between Belle Isle Strait and south Nova Scotia, and from Maine to Cape Hatteras.

The Boston mackerel is the same fish as the Atlantic mackerel. It can grow to 4½ lbs. in weight and 2 feet in length, 11½ inches in circumference. In Winter, the larger fish retire to deeper water, pursuing herring schools, but in Summer the moving schools feed by night and by day on minute surface food. Line-fishers in open boats often find it hard to keep up with a moving school of mackerel. The fish probably exceed 15 knots, but I doubt very much if they can swim at 60 to 70 mph. as some books claim. Most mackerel fisheries depend upon the habit of schooling inshore in hot Summer weather.

Seasonal Movements of Fish

Fishermen formerly thought the schools came inshore to spawn, but the mackerel have already spawned when they come inshore. They go to deeper water offshore to spawn in late Winter. Large mackerel will drive the herring schools until they scatter and then hunt and eat the smaller herring or whitebait. By driving the herring they keep these fish from feeding, or eat their food themselves.

When surface waters become colder, mackerel become fewer; when they are hotter, the schools sport on the surface and may be seen like a greasy patch from an airplane above. They move inshore away from their deep-water breeding grounds in hot Summer weather, returning in the colder months along the submarine slope of the sea-floor, to their deep water wintering ground.

Early in the year the mackerel disperse slowly from the densely-packed deep water haunts near the sea-bottom, and begin to school and move surfacewards to their spawning grounds in the Gulf of St. Lawrence and the Gulf of Maine. Then in Summer they return near the surface shorewards, and in late Summer or Fall the schools break up and return to their sea-floor gathering grounds.

Mackerel chase and catch any small bright fish from "sardines" to baby mackerel. They also feed on a lot of tiny copepods and other pelagic crustaceans. When feeding, mackerel will strike at anything bright, from a bare hook to a piece of can or silver paper.

Stake-nets stand their best chance for large and continuous catches when the weather remains calm and the winds blow off the warm land so that the schools will remain a long time in the area. When the sea rises with onshore winds, the mackerel will leave. The echo-sounder will detect mackerel as a series of striations or almost vertical curving lines on the recording paper.

With 183 to 187 calories per 100 grams, mackerel rates higher than cod, sole, herring, beef, shrimp, eggs, and vegetable foods as an energy food. Its fat and protein contents are better than salmon and as good as pilchards. It has a little more iron than most vegetable foods, and useful traces of minerals and vitamins.

The British catch their mackerel with drift nets at the surface in Summer, the Danes with bottom nets as the fish approach the Kattegat and take them almost alive to the auction halls where the canners make their daily bids.

The mackerel shoals and breeding communities can give fishermen a sustained yield if the fishermen and canners agree to the periods and amounts within the "availability" limits disclosed by the biologists' check on population ages, migration, etc. This might fluctuate from year to year, but it would avoid the danger of over-fishing and destroying the breeding stock, which has to return to the spawning grounds.

A typical mackerel seiner, the "Rose & Lucy", Capt. Philip Parisi, heading out from Gloucester, Mass., with seine boat in tow.

Electric Shocking of Lampreys Proves Effective

By Ted Bentz

EXPERIMENTS started in 1946 show that electric shocking could reduce the lamprey menace in the Great Lakes, but it would cost about $1,250,000 the first year and $450,000 a year thereafter to maintain and operate the system. This is the opinion of James W. Moffett, chief of Great Lakes fisheries investigations for the U. S. Fish and Wildlife Service, who said that it would take several years to kill all generations of lampreys as they reach migrating state, and probably ten years before improvement in the lake trout supply would be noticeable.

Sea lampreys not only attack lake trout, but cling to whitefish, suckers, pike and to practically every other fish that inhabits the five big lakes and their tributaries. Lampreys use the techniques of sharks and octopuses to kill fish.

In 1950, a special Congressional appropriation of funds was granted to the Fish and Wildlife Service (F&WS) to wage an all out fight against the sea lamprey in the Great Lakes basin. To find plausible control methods, Dr. Moffett and his staff of biologists and fishery research workers conducted a full study of the lamprey's life history. Finally, it was decided that the best avenue of approach was to stop lampreys from spawning.

Various types of wire weirs, traps and electrical devices were tested. In the final analysis, however, it was found that mechanical and natural barriers and the "electrical fence" system are most effective to prevent lampreys from performing their spawning function.

A survey of some 1,800 streams flowing into the Great Lakes basin was made. By the end of 1951, at least 245 streams along the shoreline of Lake Superior were found to be capable of producing sea lampreys. The 1952 survey added new streams to the list. In the many lamprey spawning streams of Lakes Huron and Michigan, experimental and in some cases permanent barriers already had been installed.

F&WS biologists captured and tagged thousands of sea lampreys to ascertain their migratory movements. The vessel *Cisco* was set up as a laboratory and put into operation. Experiments were conducted to determine what disease, if any, the lamprey is susceptible to—and if the eel is vulnerable to infection by internal parasites. The lampreys examined showed a fairly low degree of infection. Their susceptibility to disease is practically nil.

Game Fish Unharmed by Electrical Barriers

The Fish & Wildlife Service's most critical problem in employment of electrical barriers was to find a method of allowing game fish to move upstream through the electrically-charged field and at the same time "knock out" sea lampreys. Fortunately, it was found that sea lampreys still received sufficient electricity to kill them under application of lesser voltage, while rainbow trout and suckers were stunned only slightly and were able to migrate upstream unharmed.

Barrier dam with overhang lip on the spillway to prevent upstream migration of sea lampreys while allowing passage of rainbow trout. The dam is operated by the Michigan Department of Conservation on the Black River in Mackinac County, Michigan. (Michigan Conservation Department Photo)

In many cases where mechanical or natural barriers could not be employed, electrical fence installations did the trick. Both mechanical and natural barriers, in some streams, are supplemented with electrical installations.

Because of lack of sea lamprey barriers in Lake Superior streams before 1951, evidence of the increase of lamprey-scarred trout in 1952 increased considerably. In 1950 the percentage of scarred fish caught was 8. In 1951 it shot up to 12 per cent, while last year it skyrocketed to 23 per cent.

With lower lakes' streams fairly well taken care of, F&WS has concluded that the major effort in the campaign in 1953-54 should be made in streams flowing into Lake Superior. Inasmuch as Lake Superior trout have not been too seriously affected as yet, Dr. Moffett felt the sooner this area was protected the better. Lakes Ontario and Erie are not particularly adapted to lamprey spawning, and the eel has not made a great foothold in those Lakes. The problem, therefore, is primarily in Lakes Huron, Michigan and Superior.

Adult sea lamprey, left, with white disc tag which was placed on it by Fish & Wildlife Service biologist for purpose of tracing its migrations. At right is a three-row A.C. electrical device used in experiments in the Kewaunee River in Wisconsin to divert lampreys from spawning.

Locate Tentative Sites

Control devices eventually may have to be installed in over 194 Lake Superior streams between the Tahquamenon River and the Michigan-Wisconsin border. Tentative sites on a majority of these streams have been located, subject to change as justified by conditions on individual drainages and development of control devices.

F&WS reports that the majority of streams where control devices may be needed are small (5′ to 15′ in width). However, some are in the 15′ to 35′ class, and at least 57 are large or very large, requiring more extensive installations.

Electrical devices for 65 streams—which are too large for mechanical weirs or barrier dams or in which good sites for such devices are lacking—have been recommended by Howard A. Loeb and Albert E. Hall, Jr., fishery research biologists who directed and conducted the stream survey under Dr. Moffett. The most costly problem on many of these sites is that they are several miles from the nearest power lines.

Mechanical weirs are suggested for 61 streams. This type of device may be discarded, however, in favor of more practical structures on individual streams.

For 68 streams, barrier dams are recommended. Many of these streams are almost inaccessible. Those rugged to access are located in Ontonagon and Gogebic Counties in northwestern Michigan. The banks are ravine-like, and substratum at potential barrier sites is bedrock. Gradients are generally steep, and mechanical weirs would be almost impossible to hold due to heavy rains.

Progress Being Made

In any case, notwithstanding limitation and lack of funds, F&WS has been making remarkable progress toward control of the sea lamprey in the Great Lakes. This progress has been concerned primarily with the northern Lake Huron and the Lake Michigan areas. Twelve trapping devices were operated in Control Zone H-1 established in Lake Huron tributaries during 1950. Eleven were operated in 1951 as in the previous year. Also, a trap was installed in the bottom compartment of the fish ladder at the paper mill power dam on the Cheboygan River flowing into the Straits of Mackinac. Complete lamprey runs were captured in all but two streams, and in these only a minor escapement occurred.

In Lake Michigan six portable-type weirs and traps again were installed and operated in streams in Wisconsin by the Wisconsin Conservation Department, with nominal assistance from F&WS. Most of the sea lampreys running in these streams were captured. The portable checking weir and traps in the Black River, Mackinac County, Michigan, were installed at a new spot above the barrier dam in that stream. Both structures were operated by personnel of the Michigan Conservation Department.

The purpose of these devices was to ascertain effectiveness of a specially-designed, low head barrier dam in blocking upstream movement of spawning sea lampreys. No lampreys were taken, indicating that the dam was effective in stopping migrant sea lampreys.

In the Lake Superior area the weir and trap in Pendills Creek, Chippewa County, Michigan, was operated for the second year. It captured the entire run. An electrical fish screen and a portable-type weir and trap (checking weir) were operated in the Chocolay River, Marquette, Michigan.

Number of Lampreys Caught

In the 1951 period 32,171 lampreys were taken in Control Zone H-1 of Lake Huron tributaries; 42,980 lampreys were captured in Lake Michigan tributaries; and 321 of the eels were trapped in Lake Superior tributaries (only 2 streams), making a total of 75,472. In the 1952 period, more than 13 additional trapping and electrical devices were operated in Lake Superior tributaries, and a greater number of sea lampreys were captured and destroyed.

The sea lamprey population in northern Lake Huron, as reflected by size of spawning runs captured, apparently continued to maintain itself at peak level of its abundance for another season. For example, the total run in the Ocqueoc River was 19,393 sea lampreys in 1951, compared with 18,882 in 1950 and 24,645 in 1949.

An A.C. electrical device (background) and a mechanical check weir used in sea lamprey experiments in Carp Creek, Presque Isle County, Michigan. As the lamprey swims upstream it is stunned by the electrical device and lies on the bottom until it is captured or is carried by the current back to the lake, thus preventing it from performing its spawning function. If the lamprey does pass the electrical device, it is stopped from upstream progress by the check weir (foreground).

As in 1950, a sizable number of migrants from the adjacent lake area—Michigan's northern tip of the lower peninsula—was siphoned off by trapping operations in other streams in the vicinity. In the Ocqueoc River this reduced the total catch.

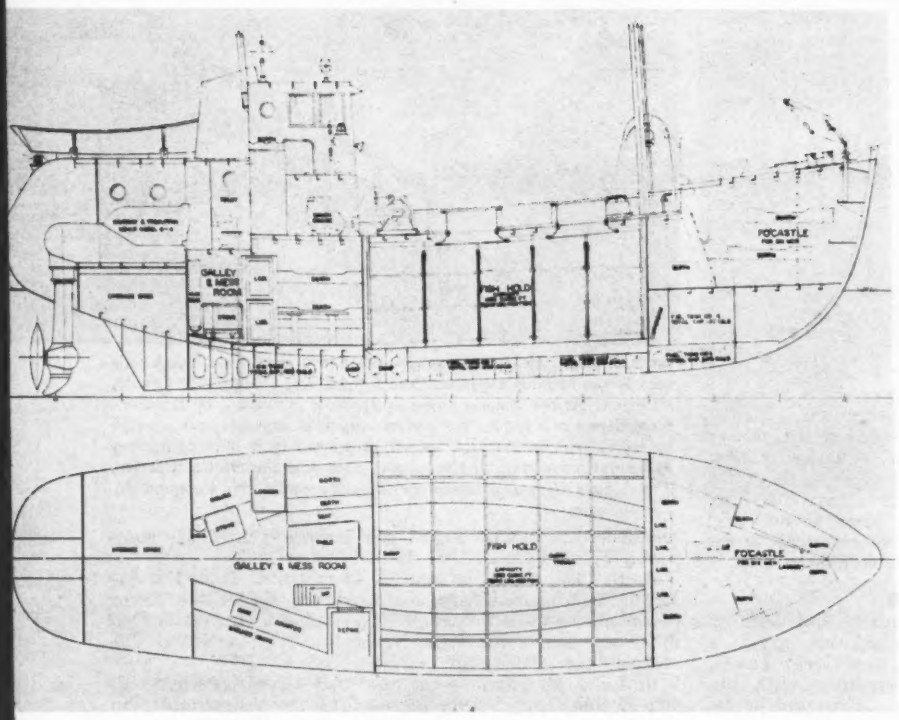
In Lake Michigan, weir and trap takes continued to reflect the skyrocketing increase of the sea lamprey in these waters. Wisconsin Conservation Department reports on six streams show the runs were nearly three times as large as those in the same drainages in 1950.

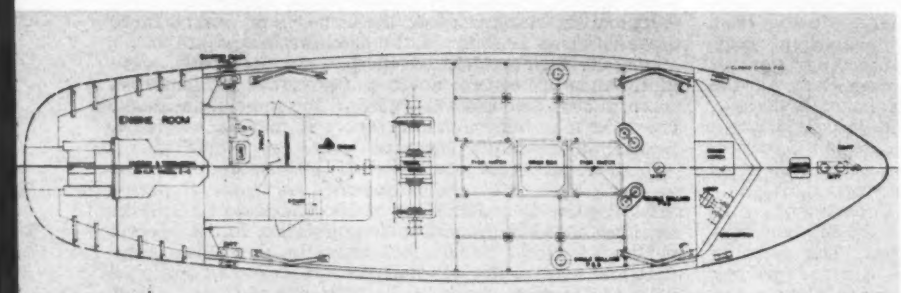
In 1950, incidentally, 16,410 spawning lampreys were captured in six control devices. Individual sea lampreys taken in 1951 amounted to 42,980 in the same six streams. The 1952 take, although the report is not yet available, indicates a substantial increase.

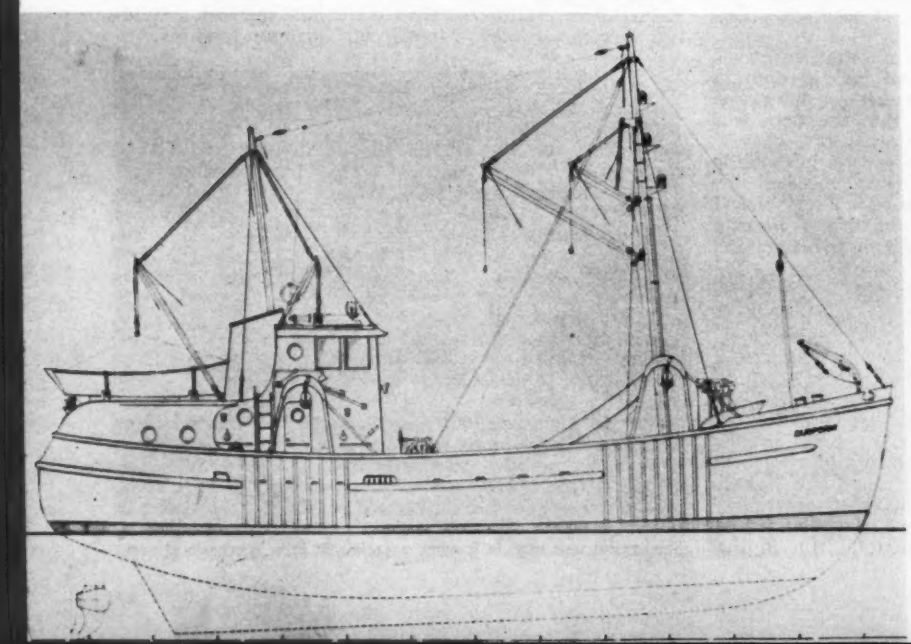
Dr. Vernon Applegate, fishery biologist, believes that sea lampreys which have spawned in Lake Superior streams prior to installation of blockades will result in considerable expansion of their population in the biggest of the five Great Lakes. But with the use of the new electrical control devices and the utilization of portable weirs and traps to check on the efficiency of the electrical systems, together with employment of mechanical and natural barriers, there is little doubt that the Fish & Wildlife Service can control the Great Lakes sea lamprey.

Mechanical weir used in lamprey experiments in a Wisconsin stream.

65-Foot Steel Dragger with Outboard Propulsion







The accompanying plans are for a 65′ steel dragger with Duoform hull, utilizing a heavy duty, Murray & Tregurtha Harbormaster outboard propulsion and steering unit. The designs were prepared by Gordon Munro, marine architect of Quincy, Mass.

Waterline length of the dragger is 62′, beam is 17′2″, depth amidships is 8′ and draft is 8′. There are 1680 cubic feet of space in the fish hold, giving it a capacity of 70,000 lbs. of iced fish. Capacity for fuel oil is 2650 gals., provided by tanks in the double bottom and under the fo'c's'le floor. Fresh water capacity is 425 gals.

Since the power plant for the Murray & Tregurtha unit is placed on the after main deck, space below deck aft that normally would be used for an inboard engine, is available for the galley and mess room.

The deck house encloses the power plant, and has a passageway with door on either side, providing access to a toilet and the galley and wheel house companionways. The winch engine is located in the forward section of the deck house. Crew accommodations comprise 6 berths in the fo'c's'le, 2 in the mess room and one in the pilot house.

The steel dragger is designed for 165 or 200 hp. engines, which will give a speed of 9½ to 10 knots. The Harbormaster propelling and steering unit has a 180 degree elevating mechanism, permitting it to be raised for maintenance and repair; two sheer pins for protection against damage from underwater obstructions; and 360 degree propeller thrust steering which makes it possible to maneuver the vessel in any direction with full power.

The Duoform construction combines two separately formed hulls into one unit. Each hull is designed independently, along strictly functional lines. The smaller secondary hull unit is of streamline design for minimum underwater resistance, and provides exceptional longitudinal hull strength.

Combining the two hulls in Duoform gives a wide freedom in design and construction technique. Duoform hulls have straight transverse lines and easy longitudinal curves, giving a bow with sharp lines that cut the water easily and throw the spray down and away from the hull.

Greater seaworthiness and safety are claimed for the Duoform design because the center of gravity is lowered, and the lower hull takes the impact in event of grounding, protecting the main hull. The secondary hull, which is subdivided by oiltight bulkheads, may be used for fuel storage tanks and as a heat exchanger for the engine cooling system.

Progress Made in Controlling Oyster Drill

Dr. Melbourne R. Carriker* Cites Experiments Which Reveal Opportunity for Curbing Spread of Predator

THE oyster drill, *Urosalpinx cinerea* Say, continues to take its heavy toll of oysters in the coastal waters of the Eastern Coast of North America. Its centers of distribution have been steadily enlarging and its numbers have been increasing in given areas to a density where the oyster industry has voiced grave concern over the extent of drill predation.

The oyster drill has but few weaknesses in its life cycle, and thus far has rather successfully resisted man's attempts to control it. Young drills pass their larval stages well protected in a tough egg case and emerge already covered by a strong shell and tough horny door or operculum. They are highly adaptable to a wide range of environmental conditions. Some of the few weaknesses in the biology of the drill will be indicated in this review; further research along these lines may prove valuable in the ultimate control of this serious predator.

At present the oyster drill occurs at several points on the Canadian coast where it is not yet a serious pest; it is abundant on the rocky shores of New England, in Great South Bay, Delaware Bay, Lower Chesapeake Bay, and Seaside, Va.; and occurs sparingly in Georgia, South Carolina, Florida and the Gulf Coast. By 1928 the drill had become well established on British oyster beds. Likewise the drill has been transported to Bermuda and to San Francisco Bay. Thus this smallest of the carnivorous snails to attack the oyster has become the pest it is within comparatively recent times, certainly since the advent of modern methods of oyster culture.

Many methods of transplanting and gathering oysters tend to favor the increase of the drill—the washing which oysters receive when raised in dredges carries out most of the drills which then fall back on the bottom; when taken up with shell which is to be used as cultch, drills often are shovelled aboard again while still alive and become new centers for spreading their kind.

During the warmer months of the year the drill may be found distributed from the intertidal areas of coastlines to a depth of 60'. Wherever drills occur in a region they have been taken on all hard shelly bottom, and they are more plentiful on a bottom covered with oysters than on a vacant bottom. Although a muddy bottom is least attractive to the drills, they show great capacity to adapt to such areas and have been collected in some abundance on some of the muddiest oyster beds in New Jersey.

Trapping of Drills Shows Promise

To date the only means of drill control which has shown promise in some areas involves trapping drills in baited wire bags and dredging and screening by a number of methods. Growing seed oysters in brackish water, as in Delaware Bay, has been another successful means of thwarting the drills. Dr. T. C. Nelson suggested once that research on the breeding of oysters resistant to drills should be attempted, though no work along these lines has been reported.

The possibility of controlling drills by chemical means has been discussed by a number of workers, but Dr. V. L. Loosanoff first attempted a study of chemical control on a large scale. He began studies in 1947 in a search for substances which would meet the following requirements: affect enemies in a desirably destructive way, be relatively harmless to man and to commercial coastal water animals, and prove inexpensive. To date he and his colleagues have screened over 1,000 chemicals. The information so far collected, though extensive, is based on preliminary laboratory experiments. No final conclusions

Ballard Fish & Oyster Company's 89' oyster dredger "W. A. Ballard" of Norfolk, Va. She carries 1600 bushels, and is powered with a Caterpillar D17000 Diesel.

are yet available, as further screening experiments and actual field tests are required.

Several compounds have been discovered which appear promising because their addition to water, even in small concentrations, causes the exposed parts of drills and other snail enemies to swell far out of the shells in a short time. During this distended stage, which lasts for several hours to several days, the drills are incapable of locomotion and are unable to contract. Thus they are quickly eaten by such enemies as the crabs, which suffer no ill effects.

Critical Salinity Varies

Salinity of the water does not effect a barrier to the distribution of drills, particularly at the mouths of rivers, but the critical salinity appears to differ with drills in different regions. Laboratory experiments have been conducted at Hampton Roads, Va. and at Beaufort, N. C. on the minimum Summer salinity at which drills survive when collected from areas having different average salinities.

Drills collected at Hampton Roads in salinities ranging from 15-20°/oo found a drop in salinity to 12°/oo fatal, whereas drills collected at Beaufort in salinities over 30°/oo could not survive a drop to 16°/oo. At lower temperatures drills are able to withstand correspondingly lower salinities. In Delaware Bay laboratory experiments conducted at the prevailing water temperature demonstrated that drills were able to attach to the sides of their containers in salinities as low as 7°/oo, though they died later under these conditions. Some drills were still alive and capable of attachment and movement after more than 19 months in 10°/oo.

Other experiments were run to duplicate the conditions occurring as a result of cold Spring freshets, where a period of low salinity is followed by saltier conditions. It took 9 to 10 days exposure to salinities varying from 0 to 8°/oo to kill 50% of the drills. Drills are also capable of withstanding high salinities, since in Beaufort they live and reproduce in salinities which remain as high as 37°/oo for several days at a time.

The effects of lower salinities on drills has made possible the development of an extensive oyster industry in Delaware Bay. The natural oyster seed beds are located up bay in water of lower salinity which is usually fatal

*Dr. Carriker is connected with Rutgers University, New Brunswick, N. J., and also is secretary-treasurer of the National Shellfisheries Association.

to drills, but in which the oyster seed thrives. By the time the oysters are transplanted to the lower more saline planting grounds they possess thicker shells which are better able to withstand the attacks of the drills.

The sexes are separate in the drill and no sex changes occur. The average and maximum length of the shell of the drill varies in different regions. In most localities adult drills average over 1", but in Seaside, Va., specimens as large as 2¼" are common.

Creeping Rate of Drills

Because of the significance of drill migration onto new bottoms, considerable research has been performed on the rate of creeping of drills. Several laboratory results indicate that over a temperature range of 56-73°F., drills may move a distance of 57 to 142' in 24 hours. In the field under Summer temperature conditions, tagged drills are reported as creeping an average of 10 to 24' per day.

Several factors may modify the drill's rate of creeping. In Delaware Bay drills are not capable of movement when salinities fall below 8°/oo. They creep more slowly over mud than on sand and gravel. Lower temperatures retard movement at a striking rate; over the same type of bottom, drills moved at an average rate of 31' per day at 77°F., and 1.4' per day at 40°F.

If a drill is placed in water that is flowing, it will immediately and definitely turn into the current and move upstream. At much reduced current velocities (0.2 cc.) this response to flow is lost. Foods, particularly certain kinds, attract drills, but how much this attraction influences the rate of movement over bottoms is not known. It may be concluded that the rate of movement of the drill in the field is probably extremely variable, since it may be influenced by so many factors.

Dr. L. A. Stauber, after some six years of study of the drill migration problem in Delaware Bay, concludes: "It still seems largely true that Federighi is correct in believing that migration is probably of lesser importance in influencing densities of drills on oyster bottom." He amplifies his conclusion by describing instances in Delaware Bay where the density of drills on adjacent bottoms is quite variable, and by recording the observation that he found the highest percentage of drilled *Urosalpinx* shells on the most barren bottoms; he is unable to reconcile this cannibalism with the reported rates of drill movement and the relative nearness of oysters on adjacent bottoms.

Appearance of Pests on Newly-Planted Beds

This discussion on the movement of drills yet leaves unanswered the important question on how oyster drills seem to appear suddenly on newly-planted oyster bottom. Dr. Stauber has presented one explanation: In Delaware Bay some drills remain on either vacant bottom or on bottom that has been dredged free of market stock oysters in the Winter.

If a commercial planting of seed oysters is made on these bottoms in the Spring before the peak of oyster drill spawning, the drills already there are given ideal food conditions which stimulate egg laying and favor the growth and survival of newly-hatched drills. These small drills go unnoticed the first Summer; by the end of the second Summer most of these drills are of adult size and the oystermen then notice wholesale destruction of oysters on their bottom grounds, erroneously attributing the slaughter to migration of drills from nearby bottoms.

Another answer, however, is necessary to explain the mass slaughter by young drills of New Jersey Cape shore oyster spat transplanted to Peconic Bay, L. I., by the J. and J. W. Elsworth Co. In the Fall of 1951 an 80-acre bottom at Westneck was thoroughly cleaned of drills by means of the ¼" mesh oyster dredge; the cleaning operation was repeated in the Spring of 1952 and again in early August of the same year. A marked decrease in the number of drills was reported with each successive cleaning.

On August 15, 4,000 bushels of New Jersey oyster spat, ⅛ to ¼" in diameter, were trucked to Long Island and planted immediately on the cleaned bottom. In three weeks the entire planting was a total loss. The majority of the drill holes in the destroyed spat were very small, and a minimum of two to four drills, mostly small, were counted on each cultch shell.

If the drill dredging was as thorough as reported, it is difficult to explain how the surviving drills could have caused such excessive losses in so short a time. The author suggests considerable numbers of young drills hitchhiked onto the newly-planted beds on floating marine plants and debris. Much research needs to be done on the role of such materials in the transportation of young drills.

Warren Oyster Company's 55' oyster dredger "G. H. Church" of Warren, R. I. She is powered with a 75 hp. Wolverine Diesel, and is skippered by Capt. John M. Tavares.

Mantle Cavity Must Be Wet

Over the head of the drill and under the shell there lies a big space called the mantle cavity, which houses a large double-comb shaped gill. External respiration is accomplished by the passage of water over this gill. Water is drawn into the left side of the mantle cavity by way of the siphon, a partly-closed tube which forms in the front part of the shell, and is ejected over the right side of the snail. Drills will remain alive only so long as the mantle cavity is wet and the snail is not shut away from the air. Thus, when drills are out of water and attempt to crawl, they hasten the loss of water from the mantle cavity and soon are destroyed.

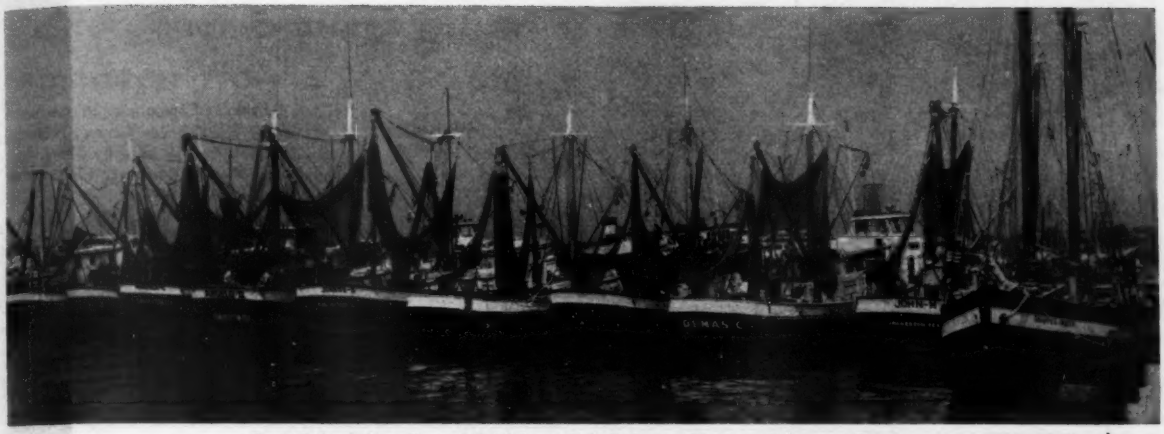
It would be useful to learn how long drills of various sizes can withstand desiccation while exposed on the surface and buried at varying depths under trash which has been drill-dredged from oyster bottoms and heaped on shore. It also would be profitable to know the capacity of drills to crawl out from under varying depths of such trash which has been dumped on vacant bottom.

Within the mantle cavity of the drill beside the gill there lies a specialized sensory surface called the osphradium. This surface receives the full flow of water siphoned into the mantle cavity and estimates the quantity of sediment carried in the water. Such a function is of extreme importance to the drill, which often lives on muddy bottoms where the danger of fouling or blocking the gill chamber is a constant one. The reaction of drills to heavy concentrations of suspended sediments has not been described.

Food Selection

Chemical substances in the water probably are perceived by the drill by means of sensory surfaces on the tenacles, the front part of the foot, the underside of the head, and the siphons. The most precise research in this field has been performed by Dr. H. H. Haskin, who has conclusively demonstrated that the capacity of drills to detect minute traces of chemical substances in the water plays a dominant role in food selection.

(Continued on page 33)



Part of the fishing fleet of the Liberty Fish & Oyster Co., Inc., Galveston, Texas.

Shrimp Industry Shows Trend to Larger Boats

Increase in Individual Ownership of Boats Also Evident*

YESTERDAY, the shrimper operated from his home port in shallow waters and seldom ventured from one area to another. Today, the picture has changed. When a captain heads his boat to sea these days, he may be going to any point in the Gulf of Mexico from Key West, Florida on around to the Campeche beds off the Mexican coast, or even down into South American waters. With bigger and more seaworthy boats, plus highly improved navigational equipment, it has become a matter of: "Where the shrimp are, the men will be."

Not only has the shrimper's operational field expanded widthwise over the Gulf, but it has extended itself downward into ever deeper waters. Once ten to twenty fathoms were considered maximum shrimping depths. Today, forty to sixty fathoms are not unusual, while experimental boats have brought shrimp up from two hundred to three hundred fathoms. Such deep-water discoveries may be looked on as endless untilled fields awaiting development and cultivation.

The inception of the commercial shrimp industry is often connected with Charles S. Wallace, who in 1907 first shipped shrimp from North Carolina to New York. However, shrimping had been in existence as a means of livelihood for seafarers long before this date, and even the first successful canning of shrimp took place as early as 1867 off the Louisiana coast. This milestone was achieved by the Dunbar family who conducted their business from a floating cannery located near Grand Terre Island, Louisiana.

In these early days, the shrimper's equipment consisted of a home-fashioned cast net or at best a two or three-man haul seine which were used only in shallow water or in good weather.

Introduction of Otter Trawl

Between 1912 and 1915 the otter trawl was introduced to the industry. By 1917, the otter trawl had become standard equipment, the size of the catch had increased many times, and the industry's attractiveness was drawing many new faces into the field.

As the trawls grew in size, it was necessary for the boats, engines, and equipment to keep pace. Today, trawls may be as large as 120 feet at the mouth ranging downward. Their size will depend on the preference of the fisherman as well as the size and power of his boat.

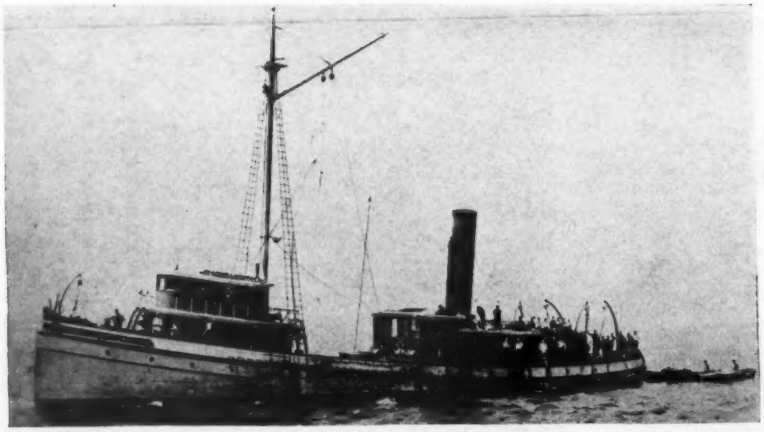
The early boats employed by the fisherman ranged between twenty-five and thirty-five feet. They were powered by small gasoline engines and generally handled by one man. As the catches increased, improvised mechanical aids began to appear, and more than one man became necessary. Masts with A-frames swinging a block and tackle were used to hoist in the trawl bag, but even so, until the advent of powered winches, the outlay of physical energy was to remain considerable.

Bigger and stronger hulls soon entered the picture, as well as larger engines of greater power. Early in the 1920's the first hoisting engines began to appear—giving mechanized power to the deck winches. In conjunction, the old A-frames began giving way to the newer mast and boom apparatus; while on the larger boats steel cables were replacing the older rope towlines.

(Continued on page 36)

The 63' "Luxury Liner", which is typical of the larger, better-equipped trawlers now being built for the shrimp fleet. Owned by Chris W. Dobard of Port Isabel, Texas, the craft was constructed by Southern Shipbuilding, Inc., Jacksonville, Fla., and is equipped with 120 hp. Caterpillar D13000 Diesel. During the first quarter of 1953, the vessel was highliner in the Twin City Fishermen's Cooperative Association fleet, having landed 12,310 lbs. of shrimp at the Cooperative's Morgan City, La. plant.

*Editor's Note: The material in this article was excerpted from a research and survey report discussing the general and financial stability of the Gulf shrimp industry, conducted by George Engine Co., Harvey, La. The survey was made by Frank A. M. Williams, an independent research agent.



Consolidated Fisheries Company's 126' menhaden boat "Leander Wilcox" of Lewes, Delaware, skippered by Capt. Evan S. Gough. The vessel's power plant is a 450 hp. Fairbanks-Morse Diesel with 60 x 46 Columbian propeller, and she also has Linen Thread Co. Gold Medal seines.

Maryland Watermen Expect Good Oyster Season

Favorable reports have been coming recently from the watermen about oysters in Pocomoke Sound. Oysters in several sections of the Sound are as "fat as butter", and the tongers feel that they will have a supply of good oysters to harvest and sell to the packing houses when the season opens. They expect that the oysters will bring them a good price.

There also are reports of many oysters in several areas in the Chesapeake Bay, which is causing dredge boat owners to have their vessels put into first-class shape in readiness for dredging when the season opens in November.

It appears that the seafood business in the area should boom all through the Winter, for when there is a good source of supply local dealers run their packing houses to capacity.

Explosives Tests to Be Conducted

Underwater explosives tests occasionally will take place in Chesapeake Bay, off the Eastern Shore of Maryland opposite the mouth of Patuxent River, for a period of approximately 1½ months beginning about September 15th. At times when explosives tests are in progress, a patrol boat displaying a red flag will patrol the area to warn approaching craft. Explosions will occur at intermittent periods during daylight hours only.

Craft engaged in firing tests will display a red flag during explosives operations. Generally, no restrictions will be imposed upon navigation proceeding through the area, but vessels are requested not to approach or remain within ½ mile of a vessel displaying a red flag.

A line of unlighted buoys, streaming generally north and south, will be placed in the area. If left unattended over night, the line of buoys will be marked at each end and at the midpoint with fixed white lights of sufficient intensity to be visible one mile.

Results of White Perch Tagging

The white perch does not travel extensively, according to a preliminary analysis of tags returned to Maryland's Chesapeake Biological Laboratory at Solomons. Last Spring 3,000 white perch were tagged in the Patuxent River system; 10 per cent have been recaptured by fishermen. A reward of 50¢ has been paid for each numbered tag.

With the exception of those fish traveling over 60 miles from the mouth of the River during spawning season to a point above tidewater, white perch seem to be a home-loving fish, rarely moving great distances during the Summer and Fall. Not one has been recaptured in Chesapeake Bay proper, although one was taken at the mouth of the River at Little Cove Point.

At least 2,700 tagged white perch, potentially worth $1,350, remain at large in the Patuxent River system below Priests Bridge, awaiting an angler this Fall or commercial netter this Spring. Fishermen are urged to look out for these fish with plastic disks about the size of a dime attached to the back under the top fin. Two tags, colored a bright yellow and red, are attached to the fish by means of a straight pin, inserted directly into the flesh below the dorsal fin.

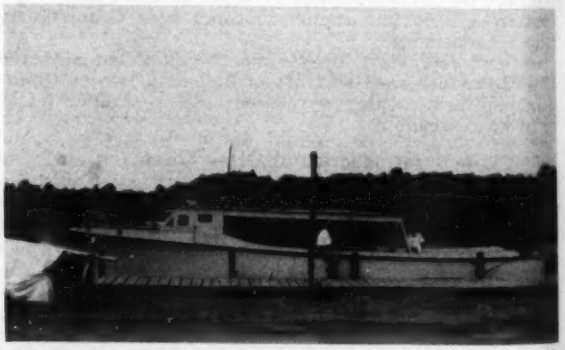
Fishermen catching marked white perch should send in the tag immediately for the reward with the following information: (a) exact locality where fish was captured; (b) date and time of capture; and (c) type of gear used to land the fish.

The study is designed to determine (a) distances and speed which white perch travel from one locality to another; (b) movements during the Summer months; and (c) fishing pressure upon the different year classes. Since scale samples have been taken from each fish that was tagged, the age can be ascertained by examining the scale for growth rings or annuli.

Low Oxygen Causes Crab Mortalities

Crab mortalities in crab pots placed in 15 ft. or greater depths of water, and in certain soft crab shedding pounds situated in sheltered areas in shallow water in the Chesapeake Bay area, apparently are due to low oxygen content in the water. According to David Cargo, crab biologist of the Maryland Dept. of Research and Education, the localized mortalities which affect the Bay's blue crab population in Summer recurred during the 2nd and 3rd weeks of July.

These weeks were characterized climatically by rather high temperatures, light winds, and in some localities, by exceptionally low tides. During this period crab fishermen reported dead crabs in considerable numbers in crab pots.



The 50' "Lydia May" of Cambridge, Md., which takes out fishing parties during the Summer and buys oysters to sell to the shucking houses in the oyster season. Her owner is Capt. Saul Phillips of Cambridge, and she is equipped with a 17 x 12 Columbian propeller and is finished with Kirby's red copper bottom paint.

Florida Boat Explores South American Waters for Shrimp

The 70' Tampa shrimp boat *Miss Barbara Ann*, owned by Robert Wilson, head of the Wilson Shrimp Co., Hookers Point, is back from a prospecting expedition that took her to South American waters. It was an eight-day run from Tampa to Port of Spain, Trinidad, and the boat immediately went out shrimping in the Gulf of Paria, between the island of Trinidad and the South American mainland.

From Trinidad the expedition went on down the coast to British Guiana, where they found shrimp 7" long near Georgetown, the capital. The prospecting went on for a month, and the shrimper did not turn back until it had reached the equator at the mouth of the Amazon.

Commenting on the explorations, Wilson said: "It will take a lot more study. When you consider that it took 10 years to really develop the Campeche Banks and seven for the Tortugas, it may take a lot longer for those banks down there."

The shrimp found in South America were of the red, brown and white variety. There apparently were none of the so-called pink type found at Tortugas and Campeche.

Wilson, who is now having a 70' steel-hulled shrimp boat built at Tampa Marine, Inc., says his next expedition will be to False Bay, Union of South Africa.

400th Boat Launched by Diesel Engine Sales

The 400th fishing boat built in 10 years by Diesel Engine Sales, Inc. of St. Augustine, Fla., went down the ways on August 10. She is the *Miss Four Hundred*, a 67' shrimp trawler designed by Tams, Inc. and powered by a General Motors Model 6-110, 205 hp. Diesel. The vessel is owned by St. George Sea Food Co., which is headed by Frank Fant of Jacksonville.

Tampa Marine Launches Two Shrimpers

Tampa Marine, Inc., Tampa, launched the 70' steel-hulled shrimpers *Mingo* and *Paragon* August 13. Sponsors of the vessels were Sheridan Lester, 7, who christened the *Paragon* for her father, Jack Lester, who will operate the vessel out of the Hookers Point headquarters; and Bertha Jean Springer, 9, daughter of A. N. Springer, superintendent of construction at Tampa Marine. The *Mingo* is owned by the Christobal Corp., headed by Howard Bissell, Ponte Vedra shrimpman who is planning to operate the craft out of Tampa.

The two vessels were the first of a series of eight under construction or on the drafting boards at the yard. The boats were designed by Tampa marine architect Charles Heinrich.

The *Paragon* is completely fitted with a refrigeration system—the only way she differs from her sister ship, the *Mingo*. Both craft have a beam of 20' and draft of 8'. They are equipped with D337 Caterpillar 170 hp. Diesels, and have fuel capacities of 8,500 gallons.

To Build Shrimp-Freezing Plant at Key West

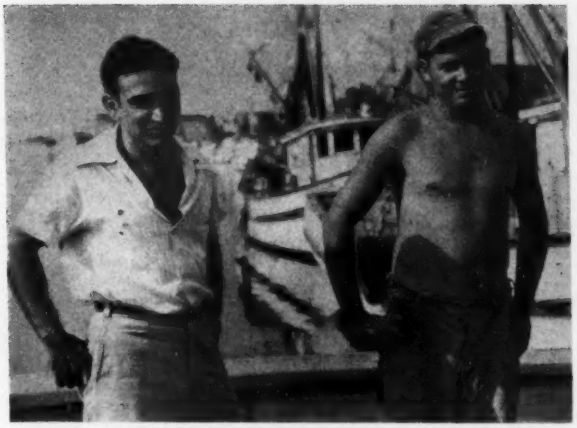
A shrimp-freezing plant with a capacity of 20,000 lbs. per day will be built in Key West by S. L. Lewis of Brunswick Quick Freezer, Brunswick, Ga., for operation not later than Nov. 15. The freezer will be an exact duplication of a Fort Myers plant, also operated by Lewis, and its trade name will be Key West Freezer, Inc. Though the chief product will be shrimp, crawfish and other edible fish also will be preserved at the plant.

The freezer will make possible shipment of Key West shrimp to all parts of the United States, and is expected to be a "shot in the arm" for the industry, which has been handicapped in the past by inadequate storage facilities on the island.

Gasoline Tax Refund Explained

Florida Attorney General Richard Ervin has ruled that any commercial fisherman or farmer seeking a refund of state gasoline taxes paid must purchase a minimum of 125 gallons within a period of three consecutive months and no single purchase can be for less than 25 gallons.

Ervin advised State Comptroller C. M. Gay that a new 1953 law which permits farmers and commercial fishermen to apply for rebate of 4 of the 7 cents per gallon tax on gasoline purchases for exclusive farm or commercial fishing boat use stipulates that no refund can be made unless the rebate will come to $5 in any three-month period.



Capt. Joe Tringali, left, of the 50' "Jitterbug", which is owned by Tringali Brothers, Fernandina, Fla. At right is Capt. Ottis Eugene Jones of the 54' "Capt. Charles", owned by Charles Bassetta & Son, Fernandina.

Industry Confers on Mexican Relationships

Following a meeting with shrimp industry operators at Palatka last month, W. C. Herrington, special assistant to the Under-secretary of State on fishery problems, reported that he will make preparations for a conference with the Mexican Government regarding international relationships of the shrimp fleet. Indications point to the desire of all units of the industry to coordinate their efforts in solving mutual problems.

Those present at the meeting were: Harry Sahlman, George Gibbs, John Shaw, Albert Wilkerson, Frank Fant, John Salvadore; Francis Taylor, Morris Wilmot, Harold Nelson, Charles Ludwig, all of Florida; A. B. Chauvin, Louisiana; Victor Gonzales, Alabama; James Barr and Oliver Clark, Texas; Charles Jackson of National Fisheries Institute and Charles Carry of the National Canners Association.

Trawler "Rava" Burns

Fire destroyed the 50' shrimp trawler *Rava* at Fort Myers Beach August 15. Guy Amason, owner of the vessel, said she had just returned from Tortugas. The craft was towed into the bay in an attempt to save her, but she burned to the waterline and sank.

Want Caloosahatchee Channel Deepened

After a series of groundings of shrimp boats, Fort Myers shrimp dealers and operators have decided to appeal to the Jacksonville Corps of Engineers to deepen the Caloosahatchee Channel from 11 to 16'. They also want to see what can be done about replacing missing channel markers and lights.

Shell Dredging in Live Oyster Beds Halted

The State Conservation Department is moving to check dredging for oyster shells in areas where there are live oyster beds. State Conservation Director Charles Bevis said the law against such destructive dredging is being "rigidly enforced". A dredging operation in Long Bayou, near St. Petersburg, was stopped August 17. In July, dredging was stopped in San Carlos Bay in Lee County, Bevis reported.

The 97' Gloucester, Mass. dragger "Sunlight", owned by Capt. Gene Marino, and powered with a 450 hp. Fairbanks-Morse Diesel.

Massachusetts University Adds Fisheries Course

The University of Massachusetts has announced a new four-year course in fisheries technology. This will be an undergraduate program leading to the bachelor of science degree in fisheries technology. The course will be administered by the food technology department, headed by Dr. Carl R. Fellers.

Capt. Leonard Linquata, vice-chairman of the Gloucester Fisheries School Committee, commented as follows on the degree course announcement: "This is quite a step forward. The University officials evidently see a need for better educational facilities in the fisheries.

"We need new fish here," added the vice-chairman. "We need practical and scientific work on our problems. Fish farming, for example; it would be great to be able to raise fish, perhaps in marshy places where the water could be regulated as to depth, temperature and other factors."

The four-year degree course is only one major objective of the Gloucester committee for a School of Fisheries. Others include an establishment in Gloucester, for instruction, research and practical work, and a two-year non-degree course.

Want Wages in Canadian Fisheries Raised

The Massachusetts Federation of Labor plans to make an effort to have wages in the fisheries of Canada, Nova Scotia and Newfoundland raised so that they would be closer to the level of those paid in the Gloucester and Boston fishing industries. This action was called for in a resolution submitted by Joseph F. Grace, business agent of the Gloucester Building Trades Council, and Manuel F. Lewis, business agent of the Gloucester Seafood Workers Union. The resolution was adopted at the annual convention of the Massachusetts Federation of Labor at Springfield.

The incoming executive council will take the necessary steps to set up a conference in the near future with workers in the foreign fisheries industries. Nova Scotia labor leaders, according to Messrs. Grace and Lewis, "have made it known they would welcome a conference."

The resolution points out that the fishing industry of Massachusetts is being harmed by the importation of foreign fish at prices that are below what the fish can be caught and processed for in that State.

Dragger Makes Good Tuna Catch

The dragger *Agatha and Patricia* landed 385 tuna at Boston Fish Pier on August 31. The tuna averaged 60 lbs. each, and the vessel also had 30,000 lbs. of groundfish.

Cape Cod Seen as Well-Suited To Seed Oyster Production

Cape Cod has a great potential as a seed oyster growing area if legal difficulties in obtaining grants can be overcome, according to Dr. Paul S. Galtsoff of Woods Hole, well known authority on oyster culture and growth. He believes that Cape Cod waters, if properly developed, could supply enough seed oysters to restock all depleted oyster areas in New England and New York.

Dr. Galtsoff and Charles L. Wheeler, fisheries biologist of the State Dept. of Natural Resources, spent two days recently conferring with David H. Wallace of Annapolis, Md., director of the Oyster Institute of North America. The three men visited oyster growers in Chatham, Wareham and Onset to discuss problems.

"Albatross III" Investigating Redfish

Redfish were collected in depths ranging from 35 to approximately 240 fathoms on a recent cruise of the Fish & Wildlife Service research vessel *Albatross III* out of Woods Hole. The shoal water yielded the smallest redfish (30 mm.) yet taken. In the deep water some previously unfished stocks of redfish were sampled with specimens up to 47 cm. in length. The Gulf of Maine and the southern edge of Georges Bank and Nantucket Shoals were the areas of investigation.

Thirty-four trawl tows were made and about 1,500 redfish were sexed and measured. A line trawl was set five times and the one-meter plankton net was towed once. Numerous notes of stomach contents were made for cod, haddock, whiting, white hake and redfish.

An experimental vertical line trawl was fished several times at night, catching whiting and hake but no redfish. Efforts to tag redfish proved fruitless. Even the redfish brought to the surface from shallow depths of 35-40 fathoms were badly blown and unable to return to the bottom.

Photographic and bottom scoop operations went off successfully on each of the eight nights worked. Those pictures developed were clear and sharp with many bottom organisms visible.

Chatham Shellfish Propagation Program

Harold Claflin, who heads the Shellfish Committee of the Chatham Fishermen's Association, sees great possibilities in Chatham's tidewater land. "We have a tremendous area around here that can produce shellfish," he says. "We are planning a long-range program to put that area to work — replenish old beds and start new ones in barren land."

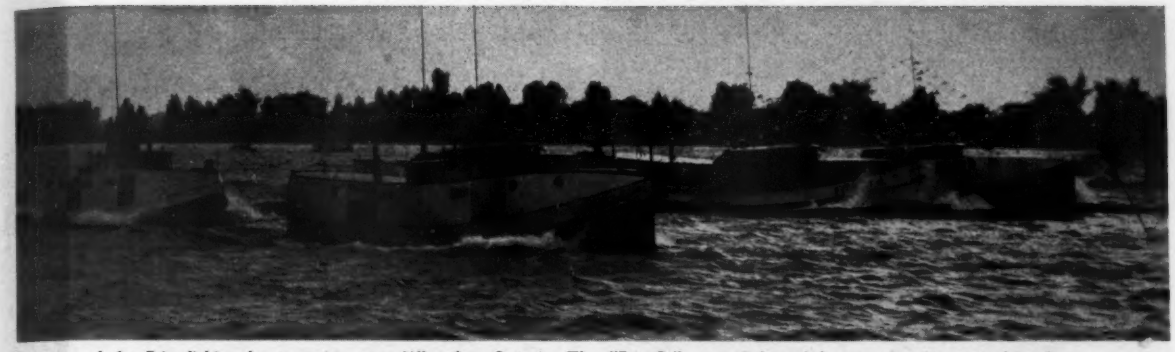
If the program of propagation and protection from enemies is successful, it is estimated that the area will produce a quarter of a million dollars worth of shellfish a year. A start was made a few years ago with scallops, which grow fastest. The experiment proved a marked success, as indicated when some $200,000 worth of scallops were dug from one flat last October.

Success in scallop propagation led to an experiment in quahaug culture which is now under way. Unlike scallops, which are ready for harvest in from 18 to 22 months, quahaugs take three years to become of marketable size.

Shellfish Warden Rolf Sylvan is optimistic over the return of the clam. He claims that there is a 15-year period from peak to peak in the clam crop. The low point on Cape Cod occurred some four or five years ago, so now every year clams get a little more plentiful.

From one plot at Stage Harbor, Chatham, Deputy Warden Oren S. Eldridge has taken over 13,000 whelks this season. Each whelk eats $12 worth of shellfish a year.

A Chatham wholesale fish dealer has been offering local fishermen the high price of $2 a bushel for whelks. He collects the town bounty of $1 a bushel, and more than makes up the dollar he is minus by selling whelks in wholesale quantities to Boston and New York dealers who cater to the Italian trade.



Lake Erie fishing boats racing near Wheatley, Ontario. The "Erie-O.", second from left, was the winner in her class.

Great Lakes Whitefish and Trout Yields Improve

Commercial fishermen operating in the western end of Lake Superior and the Huron Bay area, reported better catches of whitefish and lake trout recently. Set-hook lines were producing some fairly nice catches of lake trout, and even "bobbing" fishermen came up with a big score. In Huron Bay two commercial bobbers lifted 40 lake trout in five hours, using two hooks to a line baited with herring or small chub. Commercial trollers in the Apostle Islands area were making profitable catches of lake trout.

Fishermen at Grand Marais, Minn. and at Bayfield, Wis. and nearby ports, reported fair catches of leading varieties of fish. Herring production has been about normal for this time of year. In the Eastern area, good catches of small lake trout were reported at times, and fair takes of whitefish were lifted in the Whitefish Bay area. At Marquette, Munising, and Grand Marais, Mich., commercial trolling was at peak, with business generally good.

In the Green Bay area, carp, perch, menominee and chub yields were ranging from fair to good. Commercial fishermen operating out of Wisconsin and Illinois ports on Lake Michigan were getting sizable catches of lake chub; perch yields were in fair commercial quantities, while walleye takes in the southern part of the Lake were generally poor. In the northern part of the Lake, however, several good walleye catches were made, and herring yields showed improvement.

Commercial perch, chub, and rough fish netting on Lake Huron has been good, with the forecast of a somewhat improved Fall season. There also have been some nice yields of large lake herring.

Lake Erie commercial fishermen, as well as some of the Lake St. Clair and St. Clair River fishermen, recently have been getting nice takes of walleyes. Perch and sheepshead, carp, pike, etc., have been in fair production.

Discuss Establishment of Smelt Plant

Eighty commercial fishermen and representatives of the Continental Can Co. and the Menominee Chamber of Commerce met at Cedarville, Mich. recently to discuss establishment of a smelt canning plant. Ray W. Caldwell of Milwaukee, district representative and Otto Hunziker, Jr., fish canning specialist of Continental Can Co., explained the working of a fish canning and packaging plant.

Caldwell said Continental Can Co. would make arrangements with the Veg-al Canning Co. at Coleman, Wis. for a trial run next Spring. He suggested that smelt be trucked to Coleman for canning to see how the system works. If fishermen are satisfied with the procedure they could form a co-op and build their own plant, Caldwell said. Cedar River, Mich. was suggested as central in location because of the heavy run of smelt from Menominee to Fayette.

Hunziker told the fishermen that there is a good market for processed smelt. He said the State of Iowa alone would take the entire production of packaged and frozen jumbo smelt. He also said that 90% of commercial mink farms in the nation are in Wisconsin, which provides an excellent close-at-hand market.

Several machines would be necessary for processing smelt, including a smelt grader. The larger smelt would be cleaned, packaged and frozen for human consumption. The smaller smelt would be packed in No. 10 cans, capped and cooked for mink food.

Named Chairman of Conservation Commission

Guido Rahr, Manitowoc, Wis., was named chairman of the Wisconsin Conservation Commission recently. He succeeds Arthur Molstad of Milwaukee, who has headed the Commission for the past two years. Rahr was a member of the Commission from 1941 to 1947, and was elected to his present term in July, 1951.

Discussion on Lake Ontario Fisheries

Representatives of the Ontario Dept. of Lands and Forests, Canadian Dept. of Fisheries and the N. Y. State Conservation Dept. met at the Conservation Department's office at Ray Brook, N. Y. recently to discuss Lake Ontario fisheries. Special consideration was given to the decline of the lake trout fishery, and plans were laid for a joint action to increase the production of this important species.

Amend Lake Erie Firing Regulations

The Corps of Engineers, U. S. Army, issued a public notice on August 8 which revealed that substantial concessions have been made to minimize interference with fishing in the Lake Erie area. The amended regulations provide for anti-aircraft artillery practice on all days other than Saturdays, Sundays, and holidays between June 16 and November 30. It is understood that there will be no target practice during the heavy Spring fishing season.

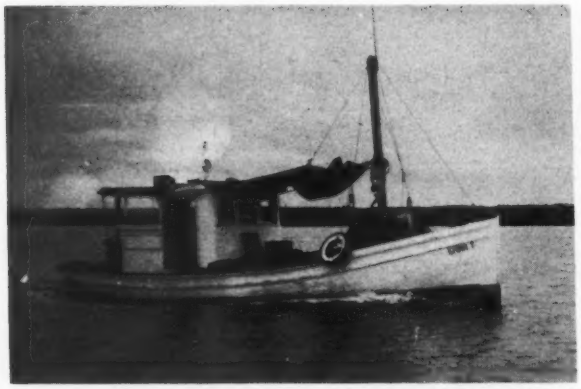
Fishing Boats Race at Wheatley

Fifteen gill net boats representing the Wheatley, Ontario fishing fleet turned out last month for a two-mile race in Wheatley Harbor on Lake Erie.

Judging the event were five local "old-timers" who rode the pace boat, the *Jimmy D*, a 41-foot cruiser loaned by the Detroit Diesel Engine Division of General Motors. Most of the judges were officials of local fisheries of which there are three on the Harbor.

The boats were divided into three classes according to power, although all three classes raced simultaneously. The race involved a 180-degree turn to make two laps of the one mile course.

The winners of the race were announced as follows: Class 1 (Diesel): the *Kar-Lou*, powered by a model 6-110 General Motors marine Diesel, and owned by George Stass of Stass Fisheries, Erieau, Ontario; Class 2 (Gasoline): the *Ruth L.*, powered by a Chrysler marine engine and owned by Roy Getty of Wheatley, Ontario; and Class 3 (Diesel) the *Erie-O*, powered by a General Motors Series 71 Diesel, owned by Jack Fouils, also of Wheatley.



The 42' x 11' x 3' shrimper "Emma T.", owned by John Simich of Buras, La. Her equipment includes 115 hp. Chrysler engine, 24 x 18 Michigan propeller, Columbian rope and Northill anchors. She uses Esso gasoline and lubricating oil, and is finished with Henderson & Johnson paint.

Louisiana Shrimp Production Ahead of 1952 Mark

Louisiana's shrimp production in 1953 has already exceeded the 1952 total by 1,551,127 lbs., according to W. S. Werlla of the Wild Life and Fisheries Commission.

The 1952 total reached 35,583,366 lbs., while 37,134,636 lbs. were recorded to June 30 of this year.

For the past two years shrimp production in the State has been in the aggregate of 84,000,000 lbs., the highest since 1946. It is likely that the 1953 harvest will exceed 100,000,000 lbs.

Shrimp fishermen were paid more than $19,000,000 for their catch in 1951-52. Prices prior to the June 21-August 10 closed season in inside waters averaged about $73 per barrel, with a top of $133 for jumbo shrimp.

Inside Waters Opened for Shrimping

On August 10 inside coastal waters were officially opened for shrimp trawling, according to L. D. Young, Jr. of the Wild Life and Fisheries Commission. This marked the end of a 51-day period, which began on June 21, when inside coastal waters were closed to shrimpers.

Spring Floods Increase Fish Supply

Periodically, Louisiana fishermen are treated to an extra dividend in fish and 1953 is a phenomenal year. This is due solely to natural causes, according to Percy Viosca, Jr., fisheries biologist with the Wild Life and Fisheries Commission.

He states that spring floods this year struck northern and central Louisiana after a protracted dry spell, thus creating conditions most favorable for the rapid growth of most species of native fish. Spreading over the swamps and bottom lands, the young fish, formerly confined to permanent streams and lakes, were able to grow more rapidly and in far greater numbers because of the abundant supply of food organisms made available to them in the newly flooded areas.

Catfish Is Important Variety

In Louisiana the catfish is king, with more catfish sold in the French Market in New Orleans, than all saltwater varieties combined.

St. Mary led in catfish production in 1952 with 2,729,737 lbs., followed by St. Martin with 1,280,463. For the fiscal year 1951-52, a total of 7,565,461 lbs. of catfish were taken by commercial fishermen in Louisiana.

Morgan City and Berwick are the biggest shipping points in Louisiana for catfish, with one of the largest shippers being Blum and Casso Fisheries of Berwick. Fishermen arrive daily at this plant with their catches, and in addition the Company has buyers who use boats and trucks to pick up catfish from other fishermen who live along the bayous and lakes in St. Martin, Assumption, Terrebonne, Lafourche, Iberia and Iberville parishes. The catfish are frozen whole or in steak packages for distribution in Western States and on the Atlantic seaboard.

Leads in Canned Fish Production

Louisiana led the South in production of canned fish in 1952 with 11,442,931 lbs. valued at $11,639,675. Louisiana also produced fishery by-products valued at $6,611,285. Mississippi ranked second with canned fish valued at $5,923,250 and by-products worth $2,614,137.

North Carolina produced canned fish and by-products worth $3,843,149; South Carolina and Georgia $1,770,934; and Florida and Alabama $3,943,678.

Fish products produced by the 69 canneries in the seven states included shrimp, oysters, crab, fish of various kinds, roe, caviar and a number of specialties.

Big Gain in Crabmeat Production

Crabmeat production this year on the Gulf Coast has scored large gains over 1952. For the month of July, principal producing areas in Alabama, Mississippi and Louisiana reported total output of 172,000 lbs., compared to 63,000 last year. Production for the first seven months of 1953 was 609,000 lbs., compared to 431,000 in the same period of 1952. In the January-July period of this year, the Morgan City-Houma area led with 246,000 lbs., followed by New Orleans and lower Mississippi section with 195,000 lbs., Mobile-Bayou La Batre, Ala. area with 101,000 lbs. and Biloxi-Pascagoula, Miss. section with 67,000 lbs.

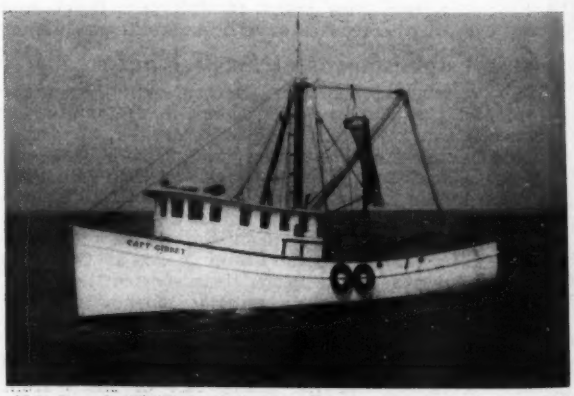
Canned Shrimp Pack Increasing

A 19 per cent gain over a year ago was registered by the shrimp canning industry in August, the first month of the new season. The catch has been largely medium and large shrimp, with but a light run of the small size that was plentiful during the early Summer. Price easing from levels forced by previous inadequate supply have brought the new pack to $4.00 for small, $4.50 for medium, $5.00-$5.10 for large. At this time in 1952, there was a sizable carryover, which was later cleaned out by sales to the Government, with the result that canners now have only a normal stock.

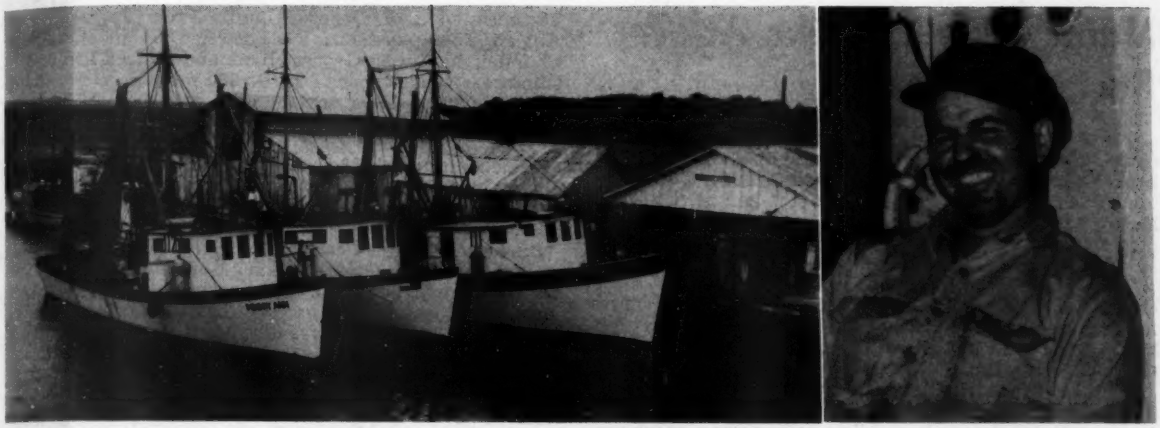
Alabama Shrimp Season Opens

An order reopening the shrimping season in Alabama's inland waters went into effect the middle of August. It was issued by State Conservation Director Earl M. McGowin.

The order makes it legal for fishermen to shrimp day and night in part of Mobile Bay and Mississippi Sound.



Alvin Dupre's 48' "Capt. Gibbet" of Chauvin, La., powered with a 120 hp. Caterpillar D13000 Diesel and equipped with a 50-watt Apelco radiotelephone and Stroudsburg hoist.



Three shrimp trawlers owned by Mt. Pleasant Seafood Co. of Mt. Pleasant, S. C. From left to right, the "Peggy Ann", "Miss Judy", both of which have D318 Caterpillar Diesels; and the "Miss Norma", powered by a D337 Caterpillar engine. At right, Capt. W. G. Toler aboard the "Miss Norma", which operates out of Charleston.

The order allows shrimping in Mobile Bay south of a line extending from East Fowl river to Beacon 20 to Mullet Point. McGowin explained that shrimp found north of that line are still too small to allow trawling in the northern bay. Shrimp must number not more than 46 to the pound to be of legal size.

Mississippi Shrimp Catch Increasing

Mississippi's catch of shrimp for the first seven months of this year totalled over 26,000 barrels, a 2000 barrel gain compared to the same period of 1952. Roughly two-thirds of the production was used for canning.

The State's oyster harvest, used almost entirely for canning, dropped from 155,000 barrels in 1952 to 137,000 barrels in 1953, during the first seven months.

North Carolina Meeting Maps Tri-State Group Research

The three-State legislative committee recently formed to study migratory fish stocks in the Chesapeake Bay and North Carolina sounds accepted a report by a scientific sub-committee and proposed that the states inaugurate a five-year, $279,000 research program in Wilmington, August 24.

Established by the legislatures of North Carolina, Maryland and Virginia, the Committee first met in July and appointed a scientific sub-committee to offer a proposed research program.

The scientific report was signed by W. A. Ellison, Jr., director of the Institute of Fisheries Research in Morehead City; R. E. Tiller, Maryland Department of Research; and J. L. McHugh, director of the Virginia Fisheries Laboratory.

Mr. Ellison, chairman of the scientific sub-committee, told the legislators that any program to determine the causes of finfish fluctuation would be "long and costly". "There is a long history of similar investigations with no definitive results obtained," he said. "It is commonly believed that fishing pressure and destruction are minor factors when compared to natural factors affecting migratory fish populations."

While members of the Maryland delegation have commented that trawling by North Carolina fishermen may be a major factor in the decline of fin fish catches in Chesapeake Bay, the scientific report made it clear that there is no evidence for this theory at the present time and that extensive research would be needed to provide a sound answer.

Wayne Heydecker of New York, secretary-treasurer of the Atlantic States Fisheries Commission, made a brief talk at the meeting. All the seaboard states from Maine to Florida belong to this Commission which acts as a clearinghouse on fisheries problems between the states.

If the states decide to go ahead with the research program, the Fisheries Commission and the Fish & Wildlife Service will cooperate in the project. The scientific report emphasized that such a study must be continuous through periods of good and poor fishing.

New Fisheries Laboratory Building

Work is expected to start soon on construction of a new brick laboratory building at the U. S. Fish & Wildlife Service Station on Pivers Island, Beaufort, N. C. of which G. B. Talbot is director. It will replace a 50-year-old wooden structure.

The new one-story building, 166 feet long and 36 feet wide, will contain offices, a library, a dark room and laboratories for chemical analysis and other work connected with fisheries research. The entire building will be air conditioned and will have fluorescent lighting.

Shrimp Season Profitable

Shrimping has been considered good most of the time recently in the Engelhard area, and takes of $120 a day per boat have been frequent. Largest buyer of fish in Engelhard is Harry Jarvis, and markets operate at Stumpy Point and many other points.

Some Wanchese fishermen have been doing well. Good catches have been made in Manteo Bay. The season is expected to last until October.

Fisheries Book Gets High Award

A book describing the fisheries of North Carolina and published by the University of North Carolina Press has been awarded the highest honor the Wildlife Society can bestow in recognition of specific achievement.

"Survey of Marine Fisheries of North Carolina" by Dr. Harden F. Taylor, formerly of North Carolina and now of New York, has just received the award certificate for 1953 by the society.

Dr. Taylor wrote the third part of the book which is a complete study of the business aspects of the fishing industry and its effect on the general economy, particularly in relation to North Carolina.

Members of the Institute staff cooperated in the survey project and wrote certain sections of it. The section on shellfish was written by Dr. A. F. Chestnut; the section on edible finfish by Dr. Eugene Roelofs; the section on menhaden fisheries by Wm. A. Ellison, Jr.; and the section on shrimp by Carter Broad. Mr. Broad is no longer on the Institute staff, though the others are continuing scientific investigations in their fields of special interest.

Maine Trawler Strike At Rockland Settled

The fishing boat tie-up that had existed in Rockland since July 31 on orders of the Atlantic Fishermen's Union, broke September 4 following a Union meeting. The strike, which had idled 13 trawlers in the port and resulted in a loss of $200,000 or more in plant workers' wages, crewmen's shares and money for ship's supplies, was called off with no concessions being made by the trawler owners.

Carl Jensen, who manages the sea operations of General Foods' Birdseye fleet in Rockland, said that shares for crewmen and the price of fish remain exactly as they have been. The same situation exists in the fleet of F. J. O'Hara & Sons, Inc.

Even with the strike over, it was expected to be nearly 10 days before the first boat would be back in port and fillet plant workers would have prospects for steady work. The strike apparently was occasioned by a demand for an increase in the price paid for fish at the Rockland plants. The fish firms were offering $3.50 per hundredweight for redfish, and it is understood that the Union wanted the price upped to $4.00.

Boats idled by the strike included General Foods' *Breaker, Breeze, Billow* and *Surge*. The *Quincy* and *Dorchester* of the Fulham & Herbert fleet, both of which land at General Foods, and the *St. George*, also were tied up. O'Hara boats which remained in port included the *Jeanne D'Arc, Villanova, Thomas J. Carroll, John Nagle, Araho* and *Notre Dame*.

Value of June Catch Higher

Landings of fishery products at Maine ports during June amounted to 40,672,400 lbs., valued at $1,577,100 to the fishermen. This represented a decrease of 39% in quantity, but an increase of 3% in value compared with June, 1952. Herring landings were 20,156,600 lbs. during the month, against 42,268,100 lbs. produced during June of last year.

Portland landings in June amounted to 9,358,800 lbs. valued at $319,100. Total production at Maine ports for the first six months of the year was 81,954,100 lbs. worth $5,825,900.

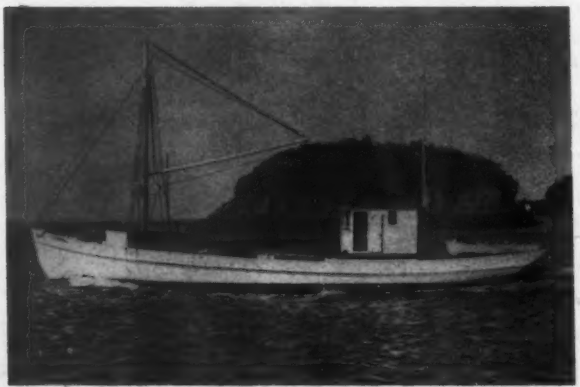
"Marjorie Parker" Makes Second Tuna Cruise

The schooner *Marjorie Parker*, now under charter to the U. S. Fish and Wildlife Service for bluefin tuna exploratory fishing operations in Gulf of Maine waters, completed her second cruise of the season on August 26. The vessel sailed from Portland on August 1.

During the first stages of the trip the craft operated in the northeastern sector of the Gulf of Maine, working 15 long-line stations at distances from 50 to 150 miles offshore, covering Cashes Ledge, Fippennies Ledge, and the northern edge of Georges Bank. From August 18 to August 25 explorations were carried on in the South Channel, Southwest Georges Bank and Pollock Rip Lightship areas at distances of 120 to 180 miles from Portland.

Floating long lines, surface troll lines and drift trammel nets were fished, with long lines principally used. Fishing results were poor, with a total catch of 600 lbs. of bluefin tuna recorded for the trip. Blue sharks were abundant, fouling long lines and impeding fishing operations. A total of 210 sharks was captured on the long-line gear.

Surface troll lines caught four tuna with an average weight of 45 lbs. Only one school of tuna was observed during the trip, and a set of 20 baskets (460 hooks) made near the school was unsuccessful. Trammel net fishing conducted at night also was unproductive of tuna catches. A total of 250 baskets (5,000 hooks) was fished, with an average rate of 20 baskets (400 hooks) per station.



The 71' x 18' x 7.6' sardine boat "Continental", owned by Seaboard Packing Co., Lubec, Me. Her power plant is a 165 hp. General Motors Diesel.

Rockland Landings for July

More than eight million pounds of fish were discharged at Rockland packing plants during the month of July. Of this, 4,001,500 were herring; 3,942,100 redfish and 132,100 groundfish. Landings of herring at the packing plants of Holmes Packing Corp., North Lubec Mfg. Co. and Green Island Packing Co. accounted for over half of the port's total for the month.

The Birdseye Division of General Foods received more than 2,800,000 lbs. of redfish and 25,300 lbs. of groundfish. Feyler's reported receipts of 557,800 lbs. of redfish and 106,800 lbs. of groundfish. F. J. O'Hara Co. received a total of 584,300 lbs.

Highliner for Birdseye was the *Surge*, which is captained by Douglas Schwartz. A total of 571,000 lbs. redfish and 300 lbs. groundfish was the amount delivered.

Marine Aquarium to Be Enlarged

Plans are well underway for enlarging the marine aquarium of the Sea and Shore Fisheries Commission at Boothbay Harbor, according to Stanley R. Tupper, Commissioner. The enlarged aquarium and special exhibits which will be sent to various State fairs and sportsmen's shows will be aimed at boosting the Maine fisheries industry.

Many new exhibits will be added, and such curiosities of the deep as narwhale tusks, giant sea turtles and whales' teeth will be on display. A special feature of the museum will be pictures and drawings dramatizing actual methods used in catching fish and lobsters.

Shell collections, mounted specimens of giant and blue lobsters and seed lobsters carrying between 10,000 and 30,000 eggs also will be on view.

Monhegan Lobstermen Featured in Article

Monhegan Island lobstering is the subject of Jefferson resident Charles Rawlings' latest story about Maine in the August 15 *Saturday Evening Post*. The article, entitled "Lobster Town", reveals the secret of the Monhegan Islanders' enviable record in the catching of lobsters.

The Monhegan lobstermen figured a way to trap more, eat more, and sell more by cutting their season in half. A two-mile area around the Island is closed to lobstering by act of Legislature six months of every year. This was done in 1907 by petition of the lobstermen themselves, and has resulted in a stable and healthy economy for the islanders through good times and bad.

The story is illustrated with full-color pictures of the Island and its people, taken by *Post* photographer Ivan Dmitri.

Sardine Pack off Sixty Per Cent

Maine sardine production as of the beginning of September was about 60% behind last year. As a result, canners have advanced their price to $7.40 for keyless oils. The canners recently received a Navy contract for 373,344 fifteen-ounce cans of sardines.

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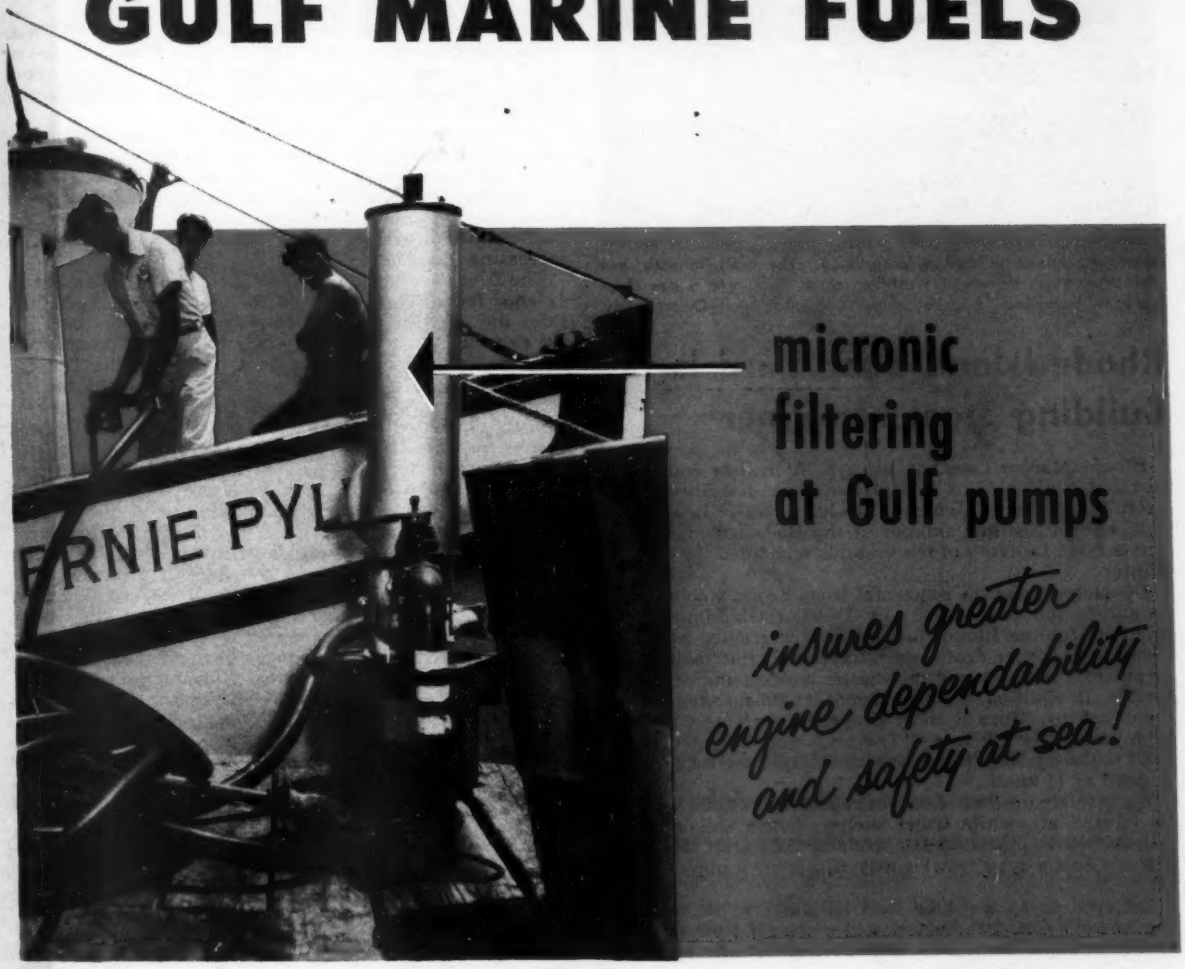

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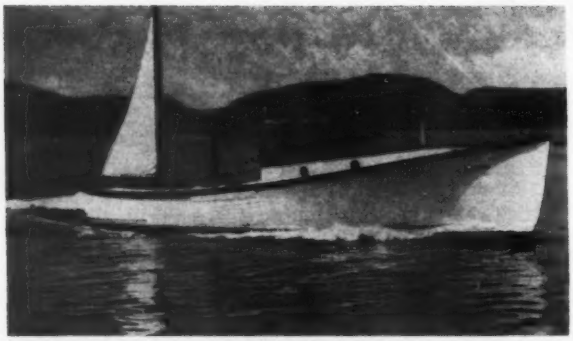

The Diesel-powered lobster boat "Ethelyn & Bee", owned by Bettencourt and Francisco of Providence, R. I. The craft formerly was owned by W. D. Havens of West Barrington, R. I., who is now skipper of the oyster boat "Isabella", operated by Rhode Island Oyster Farms.

Rhode Island Boat Yard Is Building Steel Longliner

Blount Marine Corp. of Warren, R. I., has contracted to build a 65' x 17' x 9' steel longliner for Sherry and Scott, Inc. of Boston, which is headed by Capt. Leo Hynes, well-known highline skipper of the Boston dory trawler *Adventure*. Delivery of the vessel is scheduled for the late Winter.

Developed from the successful Nova Scotia wooden type longliner, the new design by Preston Gladding, naval architect for the Blount firm, embodies greater compartmentation, deeper draft, more freeboard, zinc metallizing of exterior surfaces and bitumastic bonderizing of all interiors. In addition, the new Blount whale-fin skeg will be employed to utilize a short propeller shaft and provide high propulsive efficiency. The craft will be powered by a D337 Caterpillar Diesel, which is expected to give her a speed of 11 knots.

An insulated fish hold with a capacity of 60,000 lbs. will be located aft, while trawl shelter, house and quarters will be placed in that order forward. The craft will have a Nova Scotia type trawl gurdy run from a power take-off.

Believed to be the first steel longliner to be built on the Atlantic Coast, the vessel will mark for New England trawl fishing a trend that already has become apparent in the Maritime Provinces. She will sail out of Boston and be used on Georges Bank. The vessel also will engage to some extent in offshore swordfishing.

Trash Fish Plant to Reopen

The Galilee trash fish plant, which had been closed down since August 21 for circulating offensive odors, was expected to be permitted to reopen September 1. However, Rhode Island State Public Works Director Philip S. Mancini warned that if the odors are not controlled, the State will cancel the plant's lease altogether. Point Judith commercial fishermen who sell trash fish to the plant had urged its reopening.

Following a conference with fishermen and officials of the plant, Mancini said he was told by the management that one of the difficulties of the latest breakdown was that the fishermen had brought in too many fish. He added that plant officials told him they had worked out an agreement with the fishermen to eliminate that possibility.

Tarpon Landed in Traps

Three silver king tarpon were landed at Newport last month, far from their native waters in the south. One 85-pounder and two weighing 60 pounds were caught in traps off Ledge Road, Newport. Tarpon normally are found in the waters off Florida. Clifton Tallman, veteran Newport fisherman, said the tarpon were the first taken from his firm's traps since 1918.

New Jersey Has Good Crop of Oysters

The 1953-54 season for the harvest of oysters off New Jersey shores began September 1. The State Division of Shell Fisheries estimated that some 200 licensed oyster boats would open the season in Delaware Bay, the center of the New Jersey oyster industry.

As for the season's outlook, the Division had this to say: "Oystermen who have been taking samples from their privately-leased oyster beds in the Delaware Bay report that this year's crop will measure up to those of previous years, and indications are that there will be a good supply of oysters in A-1 condition to meet the ever-increasing demand."

The Division said the legal oyster season in New Jersey extends from September 1 to the end of next April. Besides the activity in the Delaware Bay, some 100 boats are expected out for oysters along the State's ocean front.

Special attention is being paid this year, the Division said, to a battle against the oyster's enemy—the drill or borer. "This pest annually costs the New Jersey oystermen thousands of dollars in loss of oysters," the Division added.

"One of the steps to be taken is the rigid enforcement of a requirement of use of a drill screen on the deck of every oyster boat. Proper manipulation of this screen, which separates the drills from the oysters, will materially reduce the quantity of drills in the Delaware Bay."

The Division also reported the start of a series of experiments to determine locations in Delaware Bay most suitable for a "more rapid development of the young oyster seed or spat." Oystermen are working with Dr. Harold H. Haskin, associate research specialist at Rutgers University, in the experiments. New methods of cultivation and development of the future supply of oysters are expected to result from the research.

The State planted 421,635 bushels of oyster shell on the natural public beds in upper Delaware Bay this year, and an additional 161,000 bushels of shell were planted on the southwestern "Cape Shore" area. This is more or less as an experiment to try to catch a better growth than on the public beds.

Fishermen Running Crab Pots

Since drift net fishing has been rather unsuccessful this year, many of the fishermen on the New Jersey side of the Delaware Bay have been running considerable numbers of crab pots, like those used in Chesapeake Bay. Prices to the crab fishermen vary from $4.00 to $6.00 per bushel, with the demand heavier than the supply. The majority of the crabs are sold to tourists at the dock or directly to Philadelphia buyers who pick them up.

Landings for First Six Months up

During the first six months of this year, 51,202,200 lbs. more fish were landed in New Jersey than for the same period a year ago. Menhaden made up 49,867,000 lbs. of this difference, and food fish made up the remaining 1,335,200 lbs. Landings of black drum, fluke, sea herring, menhaden, scup or porgy, shad, tautog, bonito, whiting, surf clams, conchs, oysters, scallops, and squid were higher in June of this year than for the same month a year ago.

Gustav Peterson

Gustav Peterson, 61, well known Wildwood commercial fisherman, died recently from burns suffered in a boat explosion. His son Gustav, Jr. is recovering from burns on the arms.

The Petersons were burned when an explosion ripped their 45-ft. fishing boat *Fannie E.* in Ottens Harbor at the OK Fishermen's Dock. They were cleaning their dragger when the blast occurred.

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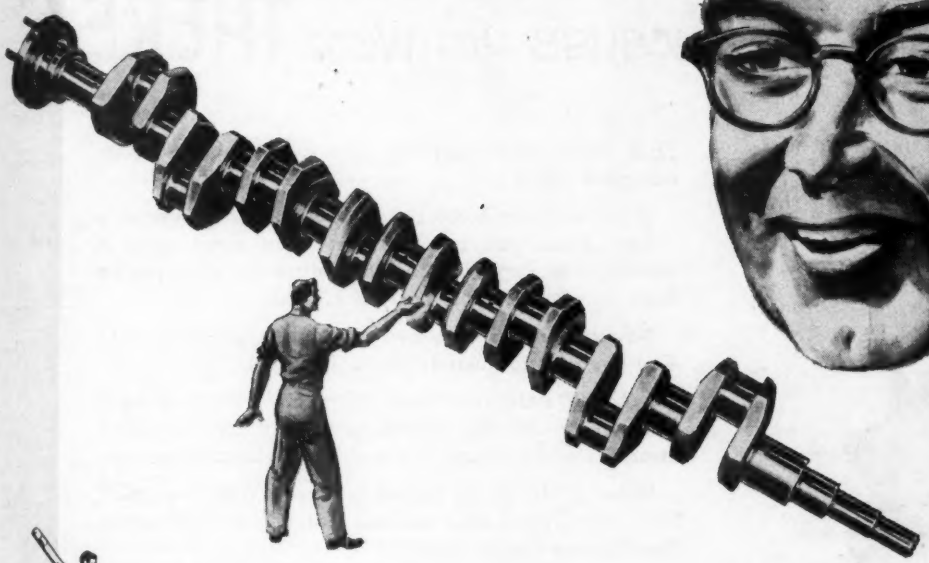

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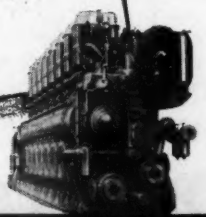

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NATIONAL BLOOD PROGRAM

GIVE BLOOD

...give it again and again

Controlling Oyster Drill

(Continued from page 20)

Dr. Haskin led bay water into two adjoining containers and placed oysters of different ages in the containers. The overflow water from these was led to opposite corners of a flat dish in the center of which drills were placed. The majority of the drills soon moved to the water coming from the youngest oysters. In these laboratory studies and in controlled field studies it was learned that oyster seed a few weeks old is approximately four times as attractive to drills as three-year-old oysters, and that the chemical differences which enable the drill to distinguish between young and old oysters probably disappear after oysters have reached the age of three or four years.

Four to seven year old oysters imported from the Maurice River Cove, where growth was poor, proved more attractive to drills than did younger oysters. This inconsistency is explained by the fact that oysters brought from a poor growing bottom to improved growing conditions are stimulated to grow, and it is during this time of rapid growth, characteristic of young oysters, that the drill-stimulating substance is released in the water. However, watery suspensions of oyster meats do not have the same appeal to drills as the live young oysters, indicating that this substance is produced only by living animals.

Drills have been known to feed on oysters, barnacles, several of the clams and mussels, slipper limpets, crabs, scallops, chitons, and their own kind; as well as on the meats removed from these animals and on the flesh of finfish. Baits of barnacles, oysters, and mussels in drill traps have proved the most attractive to the drills. Contrary to popular belief, drills will leave a bed of young oysters in preference for those in traps. This behavior is associated with the strong tendency of the drill to climb up on objects off the bottom at temperatures of 41°F. in Virginia and North Carolina, and also the greater attraction of the young bait oysters from more brackish water.

So far as is recorded in the literature no one has been able to get the drill to destroy living jingle shells when starved for three months, yet these same starved drills have readily consumed the shucked meats of jingles. The apparent repelling qualities of jingles suggest another avenue of research in the continued attempts at drill control.

Size of Oysters Attacked

The size of oysters attacked by the drill varies from that of recently-attached spat to oysters over 7" long. The destruction of such small spat is important because of the large number of oysters which thus can be killed, and because this helps to explain the discrepancy often arising between the number of oyster larvae in the water, of newly-set oyster spat, and of commercial seed oysters.

The drilling operation of bivalves by the drill involves a mechanical and possibly a chemical phase. In preparing to penetrate a shell, the drill searches the surface with the sensitive tip of the everted proboscis, and rasps the drilling site clean. Rasping at 77°F. proceeds at the rate of about 60 strokes per minute, but is not particularly effective on the harder portions of the shell.

A gland in the lower surface of the foot is intermittently brought to rest over the drilling site and a "soaking" period follows during which the gland is extended into, and the foot is held about, the drilling site. This alternate process of softening and rasping of the shell is continued until the shell is perforated. The duration of rasping varies from 2 to 15 minutes, and the softening periods range from 1 to 45 minutes.

Some as yet unidentified chemical appears to soften the shell as suggested by the fact that after each softening period the radula, or rasping organ of the drill, makes considerable headway in drilling. All shell material that is rasped is swallowed. The identification and possible utilization in control of the drill of this "softening substance" provides another worthwhile field for research.

The average rate of drilling approximates 0.4 mm. per day through the shell of an adult oyster, but this rate will vary with the hardness of the shell, size of the drill, temperature, and other conditions of the water. The average time required for the perforation of the shell of oysters varies from 5 hours for 3 mm. drills to perforate a 2 mm. oyster spat, to 7 days for an adult drill to bore through the shell of a 4" oyster.

The 82.5' x 22.8' x 6.1' "Mollie V. Leonard" loaded with seed oysters. Owned by Capt. Henry R. Buckaloo of Lewes, Del., she is equipped with a 165 hp. General Motors Diesel, Columbian propeller, Willard batteries and Columbian rope.

Dr. H. Federighi observed that if a drill was permitted to bore an oyster and was then removed, the oyster with a few exceptions eventually died; since oysters perforated with a machinist's twist drill lived indefinitely, he ascribed the death of the drilled oysters to some toxic substance injected into the oysters. These observations never have been confirmed and need further investigation.

Spawning Activities

In Delaware Bay and in Cape Cod spawning reaches a peak in June, almost ceases in August, and a second less intense wave appears in September, which is believed to be deposited by young drills maturing in the late Summer. By contrast, in Chincoteague, Va., spawning occurs over a period of 7½ months from June to January, with a climax in June and July.

Minimum salinities close to 15°/oo are required for spawning in Delaware Bay; the maximum salinities encountered in our coastal waters do not appear to inhibit egg laying. In Delaware Bay drills do not reach sexual maturity until 15 or 25 months of age, at a size of more than 15 mm.

In Barnegat Bay, N. J., development of the young in the egg case occurred in 21 to 53 days in prevailing Summer temperatures. The drill larvae within the egg cases continue their development over a salinity range of 10-30°/oo. Placing egg cases varying in age from one to five days in salinity of 7.9°/oo will stop development immediately. This shows that a short period of low salinity, even for the duration of one tide, will kill the eggs and embryos up to at least one week of age; the effects of lowered salinities on older larval stages has not been determined.

All stages of the drill within the egg case may be killed by exposing the egg cases on shore for three or four days, or by dipping the egg cases in boiling water for 10-15 seconds. They may be destroyed by immersion in a 1 to 200 solution of copper sulfate for one minute or in a formalin solution of 1 to 100 for 3 minutes; however, adult oysters with injured bills also may be destroyed by the chemicals. Insecticides such as Amox and Rotenone have been tried as dips or sprays with success, in the laboratory.

Drills have very few enemies other than man. However, there is indication that some mortality occurs. Dr. Stauber observed a sizable death rate in Delaware Bay during the Winter and Spring when temperatures were too low for migration to occur. On one oyster bed which was drill dredged periodically, the percentage of dead recovered changed from 5% in December to 30% in March.

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Gloucester Redfish Draggers Accept New Union Contract

The 5-week tie-up of redfish draggers at Gloucester was virtually ended on September 10 when owners of 33 of the 44 draggers involved had signed a new contract with the Atlantic Fishermen's Union.

The new contract contains the following provisions: (1) Welfare fund (one-half of one per cent from the gross stock of every trip). (2) $1-per-day for "brokers" (trips where expenses exceed gross stock) up to 10 days. (3) Recognition of union fishermen as employees rather than joint venturers.

The contract leaves the number of days in port between trips as is, four, instead of cutting the time in port to three days as requested by owners; and leaves the payment of lumpers as is, with payment of a certain number from the gross stock instead of paying all lumper expense from the crew share as requested by the owners; also payment of ice as is, the crew paying for the ice through the four summer months, and gross stock taking care of it for eight months.

Thirty-two other draggers in the redfish fleet were not affected by the tie-ups, since they are operating under old contracts, are working under the small boat agreement or are Southern draggers that are not under jurisdiction of the local Union.

Warn Against Netting in Buzzards Bay

The State Dept. of Natural Resources on August 13 announced that any persons caught using nets, seines or drags in the waters of Buzzards Bay would be prosecuted and their fishing vessels confiscated. The warning was issued by Howard F. Willard of Boston, director of the Law Enforcement Division of the Department, who said it resulted from the apprehension of five pogie boats in the Acushnet River basin recently.

Captains of the vessels, all working out of Gloucester, were not prosecuted by the Division because the illegality of fishing in the Bay is a comparatively unknown thing. The law was passed under the McKinley administration and revived in 1902.

July Big Month for Trash Fish

During July, Gloucester received 13,800,000 lbs. of trash fish which went to the local dehydrating plants. This was one of the biggest months ever for this type of fish at Gloucester.

Fishermen's Memorial Service Held

At the 44th annual Fishermen's Memorial Service, held at Blynman Bridge on August 9, Morton L. Deyo, retired vice-admiral of the U. S. Navy, was one of the principal speakers. He stated that in a time when the world is shrinking and raw material is getting scarce, nations will have to turn to the great storehouse of the sea.

Special tribute was paid to John Evans, fisherman who died at sea on December 12, 1952, and to Capt. Joseph Bunting of the dragger *P. K. Hunt,* who was lost at sea July 3 of this year while fishing off Nova Scotia.

Capt. John M. MacInnis

Capt. John M. MacInnis, 86, one of the last of the Gloucester skippers of sailing vessels, died on August 12. He had been identified with the Gloucester fisheries for nearly 70 years.

Capt. MacInnis came to Gloucester when he was 17 years old and went seining in the schooner *Aberdeen.* He then went hand-lining and trawling aboard several other vessels, and in 1892 began his long career as skipper of the schooner *Rebecca Bartlett.* Some years ago he gave up fishing and was employed by Gorton-Pew Fisheries Co.

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Effect of Oil Pollution on Seafood

Oil pollution in the Chesapeake Bay caused by deliberate or accidental discharge of oil and oily refuses, or bilge water from ships and industrial plants is a problem of major importance to the fin and shellfisheries of the area. Recently, biologists of the Maryland Department of Research and Education reviewed the effects of oil pollution on marine animals.

The toxicity of oil in sea water has been shown experimentally to be due to water soluble substances extracted from oil, but in most instances only when present in sufficient concentration. Scientists have found that various fishes and marine invertebrates are quickly killed by these toxins when studied in the laboratory under controlled conditions. They assume, therefore, that the same mechanism operates under natural conditions, and that mortalities in the presence of huge concentrations of oil pollution must be due to the poisonous elements that go into solution with water.

One aspect of a study made by Drs. Walter A. Chipman and Paul S. Galtsoff, fishery research biologists of the Fish & Wildlife Service, was to find a way of eliminating oil slicks where larval oysters and clams occur. These immature stages of mollusks are killed easily by their habit of swimming close to the surface. From their studies, they concluded that dusting the surface with carbonized sand (a very fine grade sand coated with carbon) was a highly efficient method of removing oil from the surface. The oil becomes bound to the sand and sinks immediately. This does not prevent it from being harmful, but it does have the major advantage of localizing the pollution.

In commenting on oil pollution, Dr. Thurlow Nelson of Rutgers University, New Brunswick, N. J., stated: "Oil is, gallon for gallon, as thrown out, the most destructive to aquatic life of all the foreign substances now entering our coastal waters."

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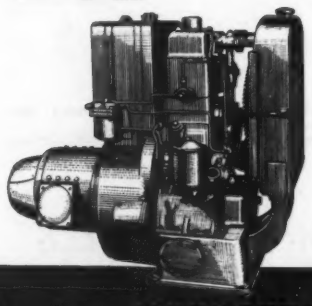

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Trend to Larger Boats

(Continued from page 21)

Until the middle 1930's, however, the small, shallow draft lugger, usually gasoline powered, remained the dominant model. This type shrimper became known as the Biloxi lugger (due to its prevalence in that area), and even today the same design may be recognized on the inshore waters of the Gulf.

These smaller boats often did not carry ice for packing down their shrimp catch, but would depend either on short hauls where they could run quickly to a disposal point before spoilage or on fishing in conjunction with a larger boat which might be classed as a mothership. In the latter case they would simply unload their catches to the mothership, and thereby remain on the grounds constantly fishing. The mothership, carrying a full supply of ice, would receive from all its "feeder" sources until a full load was attained. Then it would motor in to an unloading station.

If the fleet were operating at some distance from their home port, the larger vessel might bring fuel, water, and provisions, as well as ice, and thereby save the smaller boats many costly trips back to port.

Florida-type Trawler

By the middle 1930's a larger vessel, the offshore Florida-type trawler, had put in its appearance. One could definitely say the Gulf shrimp industry was moving into high gear. The Florida-type trawler is fifty to sixty-five feet long; a small few running still larger. Its design was purposely drawn to meet the demands of open Gulf operations. Knowledge of its seaworthiness spread rapidly to the trade, and it wasn't long before sister vessels were appearing from Alabama to Texas.

Today, the standard boat of this class is sixty-five or sixty-seven feet, with a slight tendency toward seventy-two feet for the future. Normally, these boats are Diesel powered, using cable rigs with drum hoists powered from the main engine. The range of these larger trawlers has been extended by improved navigational equipment, and runs of ten days to two weeks are common practice. Operations beyond this time period are still somewhat limited by the icing factor.

Two relatively new boat types in the field are the all steel hulls constructed for fifty-five to sixty-five foot shrimpers, and the refrigerated motherships of 100 to 150 feet in length. The steel boat's cost is higher of course than a comparable length in wood, but its durability and lower maintenance costs are thought by many to offset the higher purchase price.

The considerably larger refrigerated motherships show up best in larger operations involving several vessels journeying to distant fishing grounds. Due to their high operational expense these ships are not economical for inshore operations, nor for any but the best planned offshore ventures. Experimentation in offshore freezing and packaging has been carried on with some success, but many minor problems are still to be overcome.

Today, closed seasons for inshore fishing exist in most Gulf States during parts of the year, but for the bigger boats that fish the outside waters, there is no closed season. However, small boats formerly operated only during parts of the year when shrimp abounded in the inshore waters, the remainder of the year being spent either in trapping or other occupations.

Night shrimping is another recent development in the shrimp industry. With the discovery three or four years ago that the grooved shrimp bury themselves in the mud by day, and forage by night, came the beginnings of an entirely new shrimping procedure. It is, in some cases, possible to fish the white shrimp by day and grooved by night.

More Efficient

Texas, Florida, and parts of Louisiana are leaders in the move toward bigger boats, while Alabama and Mississippi are shifting less rapidly. In the Gulf area, it is estimated that less than 10 per cent of the shrimp boats recently built and now under construction are under forty-five feet. The shift is due to a need for more seaworthy craft to fish outside waters, to take long trips to distant grounds, and to haul larger equipment, and so forth.

Generally, large boat operation has proved more efficient and more economical than the small boat. However, many feel there are expense-size limitations, and unless a boat is to be a mothership or freezer, eighty feet and above is deemed uneconomical.

The small boat, on the other hand, is not likely to fade away. There are a great many presently in existence, and the inshore fishing by these shallow draft boats is still quite lucrative in certain seasons.

Another trend which is less pronounced, but certainly in existence, is a shift from fleet to individual operation. By "fleet" is meant packer or dealer owned boats, but not those of the independents.

In the early days, dealers and packers controlled a majority of the operating units and very few fishermen were entirely free lance operators. Today, there are several very large Gulf fleets, which, if anything, are steadily growing. On the other hand, the average Gulf Coast breakdown would indicate a fifty-fifty or sixty-forty division in favor of individual ownership.

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Get this useful New Bedford Chart showing the difference in breaking strength of Manila, Sisal and Nylon.
NEW BEDFORD CORDAGE COMPANY, NEW BEDFORD, MASS.

New Bedford Producers Want Scallops Studied

The plea of the New Bedford Seafood Producers Association for a Federal-financed scallop research program has received backing from the New Bedford Board of Commerce. The boat owners' group has requested that a share of the duty collected on fish imports be diverted to a U. S. Fish & Wildlife Service study to determine if Atlantic Coast scallop stocks are being depleted to the danger point.

According to John F. Linehan, business manager of the Seafood Producers Association, the biology of the Atlantic Coast scallop is too imperfectly known to form the basis for any predictions as to the effects of different intensities of fishing. Linehan said the number of scallop draggers operating off the Atlantic Coast has increased about 20 per cent in the past year.

He said scallops represent 50 per cent of the value of all seafood landed at New Bedford. An estimated 110 vessels, including smaller craft from Provincetown, are now engaged in scalloping out of New Bedford.

Mullins Freezer Under New Management

Mullins fish freezer in Fairhaven was officially reopened for business on August 21, when executives of the Reconstruction Finance Corp. turned over the plant to its new proprietor, William Grant, president of the Fairhaven Freezer Corp. The RFC had purchased the plant, one of the most modern and largest in the State, at public auction August 19, and it had been shut down for two days.

The newly-formed Fairhaven Freezer Corp. was granted permission under lease by the RFC to open the plant to business. The procedure agreed to is the culmination of extensive efforts by New Bedford, State and National officials to protect the vital business enterprise.

Want Buoy off Nantucket Shoals

The Atlantic Fishermen's Union has requested that the Coast Guard place a lighted whistle buoy to assist in eliminating the danger of Nantucket Shoals, a particular hazard to New Bedford fishing vessels. Since the Nantucket Lightship has been moved 15 miles eastward of her former position, it is felt that a buoy is needed off the shoals. Approximately 40 lives have been lost in the vicinity of the shoals in recent years.

Record Scallop Catch

The largest scallop catch in recent waterfront history was landed at New Bedford August 14 and 15 by 42 scallopers which hastened to port after being warned of a hurricane. A total of 240,700 lbs. of scallops was landed, with an estimated value of $100,000.

Several Boats Get New Equipment

A SurEcho depth finder has been installed aboard the dragger *Sankaty Head*, owned by Stephen A. Tripp of New Bedford. The *Empress* has been equipped with a Metal Marine automatic pilot, while the *Friendship* and the *Noah A.* have had Apelco radiotelephones installed.

July Landings Show Big Gain

Production of fish and scallops at the port of New Bedford totalled 8,365,850 lbs. during July, which was over 2 million lbs. more than in the same month of last year. The July catch this year was worth approximately $1,336,250, or about $100,000 higher than in July, 1952.

The yield of sea scallops was up nearly one million pounds to 2,054,500, while 2,424,750 lbs. of fish was landed for reduction or animal food—five times as much as in July, 1952. However, yellowtail landings fell approximately a half million pounds to 1,553,600.

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PITTSBURGH PLATE GLASS COMPANY

Virginia Crab Plant Opened By Blue Channel Corp.

Sterling G. Harris

Sterling G. Harris, president of Blue Channel Corp., has announced the opening of a new crab processing plant on Gwynn's Island at Mathews. Production from the new Mathews plant already has increased Blue Channel volume by 30%, and Mr. Harris expects this Virginia supply to increase further. With the latest addition, Blue Channel now has three plants, including those at Port Royal, S. C., and Belhaven, N. C.

Since crab meat is now becoming plentiful along the Atlantic Coast, the packers of Harris American Crab Products will be running their three plants around the clock. This intensive production schedule will insure sufficient canned crab meat to fill all demands during the Winter and Spring seasons.

Frozen crab meat as well as canned will be included in Harris inventories. The Harris American line of crab meat includes such varieties as Fancy Lump, Flaked White, Select Claw and Deviled Crab Meat.

Mr. Harris is said to have developed and licensed the first successful method of canning the meat of the Atlantic blue crab, main source of domestic crab meat. Prior to 1935, all efforts to can the Atlantic blue crab were thwarted by an unfavorable color change due to the high copper content of the meat. After six years of research a method of preventing this discoloration was developed and licensed by Mr. Harris. Today his Blue Channel Corp. is one of the world's largest packers of the Atlantic blue crab.

Hurricane Damages Crab Fisheries

The hurricane that swept up the Atlantic Coast during August did much damage to the crab fisheries. Crab packers on the Eastern Shore of Virginia, including those of Tangier Island, lost many of their crabs from floats. Crab potters, too, lost most of their pots. One fisherman who had 125 set in Tangier Sound was unable to find one after the storm.

However, crab potters are making some very good catches in Tangier Sound with new pots, and probably would do even better were it not for the many sea turtles that destroy their pots. Out of 100 pots, the sea turtles will destroy five in one night's time.

Gilling Begins in Tangier Sound

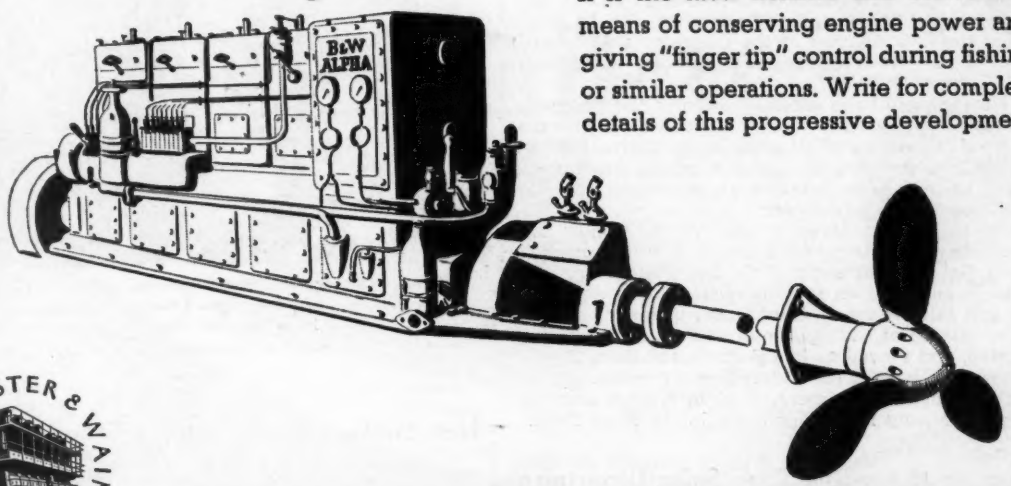
Fishermen are now beginning to set their gill nets out in creeks and coves of Tangier Sound. This month Capt. John Dise, gilling near Fishbone Island, north of Tangier, has made some very good catches. One night he caught 40 large blues, 300 Norfolk spot and several bushels of menhaden. Gill netting was expected to pick up in September.

Hampton Roads Area Landings

During August, production of fish in the Hampton Roads area totalled 915,600 lbs., which was a drop of nearly half a million pounds from the same month of 1952. All but 56,600 lbs. of the catch was from pound nets and haul seines.

The croaker yield, at 558,000 lbs., accounted for more than half the entire catch. Runner-up was sea trout, with 129,800 lbs.

B&W Alpha



BURMEISTER & WAIN, world famous pioneer in the marine diesel field, has brought the advantages of the controllable-pitch propeller well within the economical reach of the American fisherman. It is the most flexible and convenient means of conserving engine power and giving "finger tip" control during fishing or similar operations. Write for complete details of this progressive development.

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More Oyster Shells Planted

In Virginia, there has been an increase of about 250,000 bushels of oyster shells planted this year over the 1952 total of 534,000 bushels. The hot calm weather in July is believed to have aided spawning, and there should be an excellent crop in three years if there are no adverse conditions to prevent the seed reaching maturity.

Sponges Washed up by Hurricane

The strange looking, potato-like objects which were washed up in great abundance on various Virginia beaches by the recent hurricane, are reported to be sponges by the Virginia Fisheries Laboratory. These sponges, which are common on oyster bars, apparently were dislodged from their root-like attachment in the sand or mud.

South Carolina Has Good Oyster Set This Year

Indications are that the cumulative oyster set for this year is significantly higher than at the same time in 1951 and 1952, according to the Bears Bluff Laboratories, Wadmalaw Island. This Summer's setting peak occurred between May 15 and June 11, with intensity peaks being reached on May 23 and June 2. This is in contrast to the past two years, when peak setting intensity was reached during the last two weeks of June. A count of about 12 spat per square inch (about 54 per shell face) was reached on clean cultch suspended in wire bags. There may be a positive correlation between the earlier warming of the waters this year and the early set.

Setting dropped off sharply following the initial peak; after the first drop setting levelled off at about half peak intensity throughout the last two weeks of June and early July.

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Heat exchangers being re-tubed in the Hudon shop

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Equipment and Supply Trade News

Caterpillar Establishes Engine Division

Creation of the Engine Division, a new major component of the Company, has been announced by L. B. Neumiller, president of Caterpillar Tractor Co. Mr. Neumiller said that the new division of the Company will be managed by H. H. Howard, formerly director of Domestic Sales.

Mr. Howard will have administration of the Company's commercial engineering, orders, product engineering, pricing and scheduling of all engines. In addition, he will be in charge of the sales of engines to manufacturing customers. The new organization is an outgrowth of a need to meet customer requirements.

Named to succeed Howard was W. S. Zeigler, now assistant director of Domestic Sales, who will manage the Domestic Sales Department. This Department will concentrate its activities on the administration of dealer relations and sales to the Federal Government.

Zeigler started at Caterpillar in 1929 as a district representative, and moved to key posts in the Sales Dept.

Howard has been with Caterpillar 27 years, serving first in the Parts Department, next in Export and then had various managerial assignments in the Sales Dept.

Changes in Columbian Rope Sales Department

There have been several changes in the Sales Department of Columbian Rope Co., Auburn, N. Y., recently. Legare R. Hole has been appointed assistant general sales manager. Mr. Hole, a graduate of Hamilton College, has been with Columbian since 1945.

He spent some time in the mills as assistant to the superintendents, and was transferred to the Sales Department after a short period in the Industrial Relations Department. In his new position he will assist Gardner P. Dynes, general sales manager.

A new position covering sales promotional work has been created in the Sales Department, and H. Donald Baldwin has been nominated to fill this opening. Mr. Baldwin became part of the Columbian staff right after receiving his A. B. Degree from Syracuse University in 1927. He has worked out of the Auburn office most of the time, taking over the Ohio territory in the early 1940's and the New York State territory in 1952.

The territory which Baldwin covered has been turned over to Harry A. VanBrocklin, who graduated from Franklin and Marshall College in 1950 and joined Columbian in 1952.

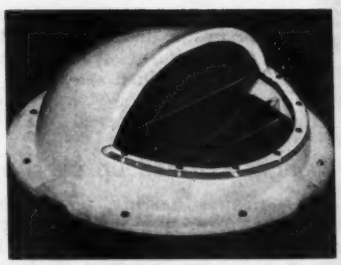
E. Selman Graves, president of James E. Graves Yacht Yard, Marblehead, Mass., points to display of Surrette marine batteries which he stocks for fishing boats and yachts.

H. T. Anderson, left, who recently returned to San Francisco as assistant general sales manager of the Enterprise Division, General Metals Corp.; at right is Hugh Goodwin, who has become manager of the New York Enterprise branch office.

New Sudbury Products for Ventilating Boats

Sudbury Laboratory, South Sudbury, Mass., has introduced two new products which are designed to permit more light and air to enter boat cabins. They are the Sudbury Sky-Vent and Port-Vent.

Even when ocean spray is pouring over the bow or rain is coming down on deck, the Sudbury Sky-Vent lets in light and fresh air, but keeps out all water. And when a boat is locked up and not in use, a Sudbury Sky-Vent circulates fresh air, thus eliminating musty odors and reducing mildew and rot.



The Sudbury Sky-Vent.

The rugged dome molded of laminations of fibre glass, never needs painting. It is set over a heavy plate of thick, transparent lucite. The Sky-Vent is supplied with a screen to keep out all insects.

There are no metal parts to rust or tarnish on the Sky-Vent, and lines cannot become fouled on it because of the unique dome-shaped construction. Two sizes are available—12" and 18".

The other new Sudbury product, the Port-Vent, also is designed to ventilate a boat without the possibility of getting either rain or spray inside. The Port-Vent can be adjusted into a wind scoop to force air inside the cabin, or the opening can be turned around so that a partial vacuum is created and air is sucked out of the cabin. The Port-Vent is made of crystal clear transparent lucite.

There are no latches or wing nuts to adjust to open or close the Sudbury Port-Vent. An accurately fitted 6" lucite tube of which a section has been removed, slides easily through two heavy lucite cabin plates that are attached inside and outside the cabin.

When the Sudbury Port-Vent is open or closed the same amount of light comes in. And, it is claimed that approximately 50% more light comes through the Port-Vent than through the usual port light, because there is no metal rim to cut down the diameter of the transparent area.

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Retorts—quick closing doors

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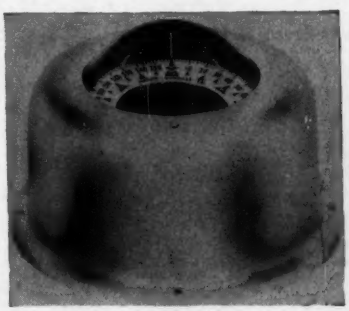

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- Sleeve "cut-off" prevents curling, raveling.
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- Eyelet drainage on side pocket.
- Rust-resistant hardware throughout both garments.

TRAWLER BOOTS
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- felt lined
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W. Ray Kern, left, general sales manager, and Robert A. Pelusi, division sales representative, Winslow Engineering Co.

Winslow Opens Kentucky Sales Office

Establishment of new sales headquarters in Murray, Ky., and the transfer of key personnel from Oakland, Calif., to the southern city have been announced by Winslow Engineering Co., manufacturers of filters and elements. Heading the group of men who moved east from the Pacific Coast on August 10 was W. Ray Kern, the firm's general sales manager. He was accompanied by his assistant, W. B. "Bill" Walker, and division sales representative Robert A. Pelusi. They will be joined in the near future by a second division sales representative who has not yet been appointed.

Announcement of the shift was made by W. G. Nostrand, Winslow's vice-president in charge of sales and engineering, who will continue to direct the Company's marketing activities from the offices in Oakland. Also remaining at the California plant are Western Division sales representative John Bacher and a staff of assistants.

The creation of dual sales facilities, according to Nostrand, was brought about by Winslow's desire to make service as well as products more readily available to the Company's distributors and customers in all parts of the United States and Canada. After more than 25 years of concentrating all its manufacturing in Oakland, Winslow opened a new factory in the Kentucky city early in 1952, and is now supplementing those facilities with a complete sales organization.

Kern, in addition to his sales post, also has been appointed manager of the entire Murray plant. In the latter capacity, he reports directly to L. L. Moore, vice-president in charge of manufacturing, who makes his headquarters in Oakland.

New Sperry Electro-Hydraulic Steering Gear

Development of a new electro-hydraulic steering system for ships of any size has been announced by the Sperry Gyroscope Co., Great Neck, N. Y. "The new system is the first to combine the unerring 'magnetic brains' of proven automatic control systems with mass-produced hydraulic components well known throughout heavy industry," said R. E. Erbentraut, Sperry manager of marine sales. "The mass production factor alone can save shipbuilders as much as 20 to 30 percent in steering gear costs," he stated.

The new steering gear is controlled by a non-vacuum tube magnetic amplifier similar to the ones in the Sperry robot which steers the superliner *SS United States* on precise automatic courses. Because of this design, the new systems can be readily adapted to respond to automatic as well as manual course commands.

Lower costs in the new equipment stem from use of standard hydraulic units mass-produced by Vickers Incorporated. These units replace conventional steering engines for moving the ship's rudder. Although Vickers hydraulic units have proven reliable in heavy construction machinery and prime movers for more than 15 years,

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It takes hold *immediately*
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development of steering systems based entirely on these components is an innovation. Available Vickers components are so varied and produced in such large numbers that the new steering systems recently engineered by Sperry can be made to fit ships in any conceivable form, size, and degree of compactness.

Woolsey Rubber Sealer Now in Applicator Can

"Ti-Tall", Woolsey's new liquid rubber sealer that fills even the smallest topside and underside seams and cracks, is now available in a handy new spout applicator can. This new applicator helps to reach all cracks and crevices, and allows the liquid sealer to run into seams where heavier compounds are impracticable. The new compound dries hard and uniform, so that the surface can be painted or varnished 24 hours after application.

"Ti-Tall" is formulated to remain permanently elastic once it hardens, and it gives lasting watertight sealing. It can be used in the narrowest seams on wood and canvas decks, hulls and small boat bottoms.

New Book Describes Underseas Explorations

"The World Beneath the Sea" is a new book in which Otis Barton describes his underseas adventures and brings vividly to life the mystery and fascination of the depths of the ocean. Published by Thomas Y. Crowell Co., 432 Fourth Ave., New York 16, N. Y., the book is available for $3.50.

The author, whose 4500-foot underwater descent has taken him to depths no other man has reached, began his diving career on the muddy harbor floor off Cotuit, Mass. Here, as a youth, in a primitive wooden helmet with sacks of rock and sand about his neck, he first experienced the adventure that lies beneath the surface of the sea.

Soon he was dreaming of new ways to conquer the depths—dreams which began to materialize in 1928 when the great naturalist, Dr. William Beebe, expressed interest in the blueprints for a hollow sphere suspended from a cable. This was the model for Barton's first bathysphere, a steel cylinder weighing over 5,000 lbs. and 54" in diameter, with fused glass windows and a door 15" thick. In it he and Dr. Beebe penetrated the murky green waters of the twilight ocean depths.

Later, on expeditions of his own, crouched against the bathysphere's hard wall, Mr. Barton explored the colorful Atlantic coral reefs, photographing the exotic rainbow-hued fish that move in profusion through the clear waters. He has descended into the Pacific and Caribbean, hunting deadly tiger sharks, manta rays, sawfish, swordfish, and octopuses.

W. T. Crowe, left, general manager, and E. F. Bentley, center, general sales manager, Detroit Diesel Engine Division, General Motors Corp., presenting Lee Hardiman with the W. T. Crowe Merit Award offered annually to sales leaders in the distributor organization. A three-time winner of the award, Hardiman, former sales engineer of Florida Diesel Engine Sales, Jacksonville, has retired from active business after over 30 years of building fishing boats and selling Diesel engines.

Month after month, thousands of pounds of EDERER NETTING is tagged for ports along the Atlantic, Southern Waters, and the Gulf Coast. The fact that each year sees more and more EDERER quality netting in these areas, is conclusive evidence that EDERER NETTING is tops for ocean or inland water fishing. To be sure of uniformity and strong netting—ASK FOR EDERER QUALITY WHEN YOU BUY . . .

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Long Island Oyster Firm Changes Ownership

A group of businessmen headed by Paul O. Mercer have purchased the Bluepoints Co., West Sayville, Long Island, from General Foods Corp. The buyers along with Mr. Mercer include John Toigo, Sayville, vice-president of a New York advertising agency; A. J. MacTaggart, associated with Bluepoints and formerly managing the Connecticut Oyster Farms; J. Lawrence Alphen of Boston, Mass., formerly associated with General Seafoods; and Jerry Rosenberg, who is in seafood distribution in New York.

The holdings of the Bluepoints Co. include 20 boats, some 30,000 acres of oyster grounds, and installations at East Providence, R. I.; Milford, Conn.; Greenport, N. Y.; West Sayville, N. Y.; and Bivalve, N. J.

Mr. Mercer, who has been president of the Company for a number of years, will continue as the chief executive. He has been associated with the firm since 1918. General Foods purchased the oyster business in 1930.

It is understood that the present name of Bluepoints Co., Inc. will be retained, and that the main office will remain at West Sayville.

Greenport Ready for Oyster Season

All of the necessary preliminary work, such as the annual overhauling of the boats and plants, had been finished the latter part of August, and Greenport was ready for the official opening of the oyster season on September 1. The greatest change in the setup of the various oyster companies in the community is the opening of the plant of the Thompson Oyster Co. at its new location in the buildings which formerly housed the Gaffga Marine Engine Co.

The Thompson Co., after being located on the waterfront at the foot of First Street for over 30 years, several months ago purchased the site of their new location. During this time the buildings have been remodeled and modernized, and with the installation of the necessary equipment converted into an efficient oyster handling plant.

Greenport-grown oysters are, during the Fall and Winter months, shipped to all sections of the country, both opened and in the shell. Several large oyster companies maintain and operate modern oyster handling plants in Greenport. They include Lester and Toner Oyster Co., J. & J. W. Elsworth Oyster Co., Bluepoints Co., Robert Utz and Sons, E. E. Ball Oyster Co., Thompson Oyster Co., Shelter Island Oyster Co., H. C. Rowe Oyster Co., Sea Coast Oyster Co., Radel Oyster Co. and Pell's Sea Food Market.

Also, in addition to the oyster business, about September 15 the local baymen will be busy catching scallops.

Hudson River Seed Oysters Being Transplanted

Oyster dredge boats of the firm of Flower Bros., Bayville, have been engaged in transplanting small oysters from beds in the Upper Hudson River to growing and fattening areas in the vicinity of Bayville. George W. Vanderborgh of West Sayville also is utilizing seed from the same area. For many years, the Hudson River was not used for oyster culture, and it was assumed by most oystermen that the possibilities for producing oysters no longer existed there.

Three Sons Operating Thompson Oyster Business

The oyster businesses which were headed by the late Joseph N. Thompson, who died recently, now are being operated by his three sons. George G. Thompson is managing the firm of George Thompson & Son, New York City; Joseph N. Thompson, Jr. is in charge of South Ferry Oyster Co., Greenport; and Philip J. Thompson is directing the activities of B. J. Rooks & Son, Inc., Warren, R. I.

Fish Landings

For Month of August

Hailing fares. Figure after name indicates number of trips.

PORTLAND

Agnes & Elizabeth (2)	103,800	Medan (2)	599,000
Alice M. Doughty (2)	123,500	Nora'D. Sawyer (1)	8,900
Alice M. Doughty II (3)	117,200	Ocean Clipper (4)	172,300
Batavia (1)	14,000	Ocean Wave (3)	148,700
Captain (1)	8,200	Powhatan (3)	101,200
Carmella & Lois (2)	9,000	Rebecca II (2)	12,500
Challenger (11)	40,700	Resolute (3)	107,900
Chanco (2)	144,700	St. Michael (6)	28,200
Crescent (11)	81,900	Sea King (1)	38,700
Dart (2)	7,000	Silver Bay (3)	510,300
Elinor & Jean (5)	208,900	Theresa R. (2)	223,300
Ethelina (5)	275,500	Thomas D. (3)	235,300
Gretchen & Dale (3)	19,000	Vagabond (4)	251,500
Gulf Stream (1)	200,500	Vida E. (2)	14,000
Ida E. (1)	5,000	Voyager (2)	21,800
Lawson (3)	92,500	Wawenock (2)	435,100
Mary & Helen (2)	15,000		

Scallop Landings (Lbs.)

Adele K. (3)	36,600	Clara Louise (1)	7,000
Aloha (1)	10,700	Mary & Julia (2)	21,000
Brant (3)	32,500	Monte Carlo (2)	17,400
Catherine T. (1)	9,800	Vandal (3)	25,700
Charlotte (1)	2,894		

BOSTON

Acme (7)	116,200	Maria Christina (7)	30,400
Addie Mae (6)	98,200	Maria Del S. (5)	62,300
Adventure (2)	96,500	Marsala (3)	91,900
Agatha & Patricia (4)	167,300	Mary & Jennie (6)	89,500
American Eagle (3)	102,000	Mary W. (1)	21,000
Angie & Florence (4)	92,300	M. C. Ballard (1)	28,500
Annie & Josie (5)	78,100	Michael G. (3)	55,700
Arlington (2)	167,100	Michigan (3)	264,900
Atlantic (3)	194,800		
Ave Maria (Drag.) (6)	97,500	Nancy B. (4)	117,300
Ave Maria (O.T.) (2)	94,200	Natale III (2)	29,000
		Nautilus (2)	118,000
Baby Rose (2)	75,000	Neptune (3)	176,700
Bay (2)	110,500	Nyanza (1)	17,200
Bonnie (2)	108,000		
Bonnie Lou (3)	159,300	Ohio (3)	168,800
Brighton (3)	280,500	Olympia (4)	135,400
		Olympia La Rosa (4)	188,700
California (1)	11,000		
Calm (3)	257,800	Pam Ann (2)	85,100
Cambridge (2)	190,100	Phantom (3)	306,000
Carmella Maria (5)	97,200	Plymouth (3)	210,500
Carol & Jean (1)	33,800	Princess (1)	25,000
Catherine B. (Drag.) (4)	187,900		
Catherine B. (L.T.) (7)	29,900	Racer (3)	216,400
Cherokee (1)	51,000	Raymonde (2)	106,800
Cigar Joe (3)	121,400	Red Jacket (3)	327,700
Comet (3)	200,000	Roma (7)	102,000
Crest (3)	351,000	Rosa B. (3)	237,000
		Rosalie D. Morse (2)	131,800
Delaware (1)	19,000	Rose & Lucy (2)	45,000
Drift (2)	141,500	Rosemary (2)	68,500
		Rosie (4)	62,200
Elizabeth B. (2)	146,000	Rush (1)	70,500
Famiglia (3)	56,400	Sacred Heart (5)	63,200
Flying Cloud (3)	327,200	St. Anna (8)	57,200
4-H-823 (7)	24,700	St. Joseph (3)	92,100
4-R-630 (4)	14,700	St. Peter (3)	70,700
		St. Peter II (1)	49,900
Geraldine & Phyllis (2)	75,000	St. Rita (1)	5,800
		St. Rosalie (1)	40,700
Helen M. (2)	64,700	St. Theresa (1)	47,400
Hilda Garston (1)	61,000	St. Victoria (2)	61,800
		Salvatore & Grace (2)	62,500
Ida & Joseph (4)	66,000	San Antonio II (7)	68,900
		San Calogero (7)	118,200
Jane B. (3)	176,200	Santa Maria (4)	197,300
J. B. Junior (3)	215,700	Santa Rita (7)	31,100
Jean & Patricia (1)	14,000	Santa Rosalia (4)	11,900
Jennie & Julia (2)	81,500	Santina D. (1)	30,600
Jennie & Lucia (2)	45,900	Savoia (8)	62,600
Joe D'Ambrosio (4)	25,700	Sea Queen (2)	82,800
Jorgina Silveira (1)	35,100	Serafina II (3)	45,000
Josephine F. (6)	35,400	Swallow (3)	226,300
Josephine P. II (3)	122,100		
Josie M. (5)	71,000	Terra Nova (2)	13,300
		Texas (3)	184,700
Lawrence Scola (2)	16,900	Thomas Whalen (3)	212,900
Leonarda (6)	38,200	Triton (3)	162,300
Leonard & Nancy (3)	115,100		
Little Nancy (5)	153,500	Virginia (1)	36,000
Little Sam (7)	115,500		
Lucky Star (3)	157,400	Wave (3)	352,200
		Weymouth (3)	202,200
Mabel Mae (3)	138,000	Wm. J. O'Brien (2)	179,600
Maine (3)	263,000	Winchester (3)	260,900
Manchonoch (2)	64,500	Wisconsin (3)	321,500
Manuel F. Roderick (3)	124,800		
Margaret Marie (1)	8,000	Yankee (3)	121,600

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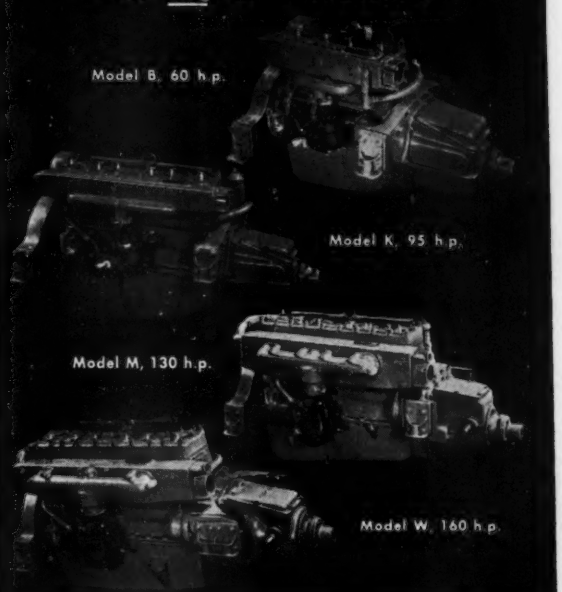

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Paul Miller

"I have owned Chris-Crafts for nearly 16 years and have had good service from all of them," writes Paul Miller, Cedar Rapids, Ia., skipper-owner of Cedar River's new 64-ft., 150-passenger dance boat, *Kapa Ann*. "So when the *Kapa Ann* was built, I installed a pair of Chris-Craft Marine Engines with Chris-O-Matic controls. On a passenger boat of this kind, good dependable power is very important — you can't afford less than the best. Chris-Craft engines and Chris-O-Matic give top performance *at all times!*"

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NEW BEDFORD

Adventurer (4)	53,200	Lera G. (2)	38,300
Anastasia E. (3)	41,600	Lorine III (2)	46,500
Annie Louise (4)	19,400		
Annie M. Jackson (2)	51,000	Magellan (3)	95,500
Arnold (4)	49,000	Maria-Julia (2)	28,900
Arthur L. (2)	49,900	Mary & Joan (2)	55,500
Austin W. (2)	50,300	Mary Tapper (2)	39,200
		Meta & Margaret (3)	42,000
Bernice (4)	19,500	Minnie V. (4)	26,900
		Molly & Jane (3)	52,200
Capt. Deebold (2)	40,700		
Chas. E. Beckman (4)	54,500	Nancy Lee (3)	12,900
Charlotte G. (3)	44,000	Nautilus (1)	24,500
Connie F. (3)	104,500	Noreen (3)	130,800
C. R. & M. (4)	67,500	North Cape (2)	53,000
Dauntless (3)	37,400	Pauline H. (3)	137,500
Driftwood (1)	1,600	Phyllis J. (2)	6,500
Ebenezer (3)	13,100	Reliance (2)	3,000
Elva & Estelle (3)	32,100	Roberta Ann (3)	94,000
Elva L. Beal (3)	9,100	Rose Jarvis (2)	5,500
Eugene & Rose (2)	49,500	Rosemarie V. (3)	61,800
Felicia (3)	109,400	St. Ann (3)	49,100
		St. Therese (1)	26,700
Gladys & Mary (3)	76,500	Sankaty Head (1)	15,500
Growler (1)	34,000	Santa Cruz (2)	37,000
		Sea Fox (4)	58,500
Harmony (2)	32,600	Sea Hawk (3)	47,000
Harvest (3)	4,500	Shannon (3)	67,000
Hope (4)	17,600	Solveig J. (3)	81,500
Hope II (3)	50,900	Sonny & Joyce (2)	8,800
Huntington Sanford (3)	48,000	Sonya (1)	25,000
		Sunbeam (2)	53,000
Idlewild (1)	1,200	Susie O. Carver (3)	17,300
Idlewild II (1)	2,000		
Invader (2)	19,600	Teresa & Jean (2)	86,200
Irene (1)	4,000	Three Pals (3)	86,000
Ivanhoe (3)	82,300	Two Brothers (N.B.) (4)	16,500
		Two Brothers (N.J.) (2)	48,200
Jacintha (1)	36,500		
Janet Elise (2)	6,800	Venture 1st (1)	26,500
J. Henry Smith (4)	12,700	Victor Johnson (1)	18,000
Jimmy Boy (1)	10,900	Viking (3)	29,200
Joan & Tom (1)	23,500	Viking (Chil.) (2)	4,500
Joan & Ursula (3)	89,900		
		Whaler (3)	123,300
Katie D. (3)	127,500	Winifred M. (1)	26,300
Kelbarsam (2)	23,600		

Scallop Landings (Lbs.)

Abram H. (2)	22,000	Kingfisher (2)	22,600
Agda (2)	22,600		
Aipar (2)	12,800	Lauren Fay (3)	23,500
Amelia (3)	27,500	Liboria C. (3)	26,325
Anna (1)	8,200	Linda & Warren (2)	11,800
Antonina (2)	8,000	Linus S. Eldridge (3)	30,400
		Louis A. Thebaud (2)	22,200
B & E (2)	15,000	Louise (2)	22,100
Barbara (2)	21,500	Lubenray (3)	31,800
Barbara Gale (1)	10,600		
Barbara M. (2)	17,600	Major J. Casey (3)	23,400
B. Estelle Burke (1)	12,000	Malene & Marie (3)	26,100
Bobby & Harvey (3)	24,100	Maridor (1)	10,500
Bright Star (2)	21,650	Marie & Katherine (2)	16,625
		Marmax (2)	21,800
Camden (2)	21,700	Martha E. Murley (2)	22,600
Cape Cod (2)	8,400	Mary Anne (2)	20,200
Cap'n Bill (1)	8,000	Mary Canas (2)	19,600
Carl Henry (3)	28,200	Mary E. D'Eon (3)	32,500
Carol & Estelle (3)	29,800	Mary J. Hayes (2)	21,600
Carolyn & Priscilla (2)	13,800	Mary R. Mullins (2)	19,250
Catherine & Mary (3)	32,200	Mayflower (N.J.) (1)	7,500
Catherine C. (1)	10,500	Moonlight (3)	31,800
Charles S. Ashley (3)	27,200	Muskegon (3)	23,700
Christina J. (2)	21,900		
		Nancy Jane (2)	18,900
Dagny (2)	16,500	Nantucket (2)	17,700
Dartmouth (1)	11,700	New Bedford (3)	26,500
David A. (3)	31,450	New Dawn (2)	21,000
David B. (2)	21,700	Newfoundland (3)	31,100
Doris Gertrude (2)	23,200	North Star (2)	22,800
Dorothy & Mary (3)	31,700		
		Pearl Harbor (1)	11,400
Edith (2)	13,000	Pelican (2)	23,900
Eleanor & Elsie (3)	27,500	Peter & Linda (1)	3,100
Elizabeth N. (2)	21,900	Petrel (2)	13,500
Empress (3)	23,100	Pilhasca (1)	4,500
Ethel C. (2)	21,900	Porpoise (2)	21,500
Eunice-Lilian (3)	27,000		
		Red Start (3)	33,000
Fairhaven (3)	33,300	Reid (1)	10,000
Falcon (4)	31,000	Richard Lance (1)	10,400
Falcon (N.Y.) (2)	6,100	Rosalie F. (1)	10,300
Flamingo (3)	27,500	Rosie II (2)	18,000
Fleetwing (3)	32,100	Ruth Moses (3)	27,750
Francis J. Manta (2)	22,000		
Friendship (2)	22,500	Sea Hawk (3)	28,100
Friendship (N.Y.) (2)	13,500	Sea Ranger (2)	21,700
		Shirley & Roland (1)	6,500
Gambler (2)	24,400	Smilyn (2)	21,100
Gannet (3)	34,100	Sunapee (3)	23,900
Gloria F. (1)	6,000		
		3 & 1 & 1 (3)	24,125
Ida K. (1)	10,700		
		Ursula M. Norton (3)	26,800
Janet & Jean (3)	24,200		
Jenny (N.Y.) (1)	7,000	Vivian Fay (2)	22,400
Jerry & Jimmy (2)	22,200		
John David (2)	8,000	Wamsutta (2)	12,500
John G. Murley (3)	30,500	Wm. D. Eldridge (3)	32,900
Josephine & Mary (1)	9,000	Wm. H. Killigrew (3)	32,900
Junojaes (2)	21,300		

Swordfish Landings (No. of Fish)

Winifred M. (1)	33

WOODS HOLE

Angenette (4)	3,700	Kathy Dick (3)	1,600
Cap'n Bill (1)	65,100	Liberty (2)	1,900
Carrie M. (1)	300	Little Lady (3)	1,200
Clara C. (4)	3,400	Madeline (3)	9,700
Clara T. (2)	2,100	Maria-Julia (1)	1,700
Dorothy (3)	7,300	Mary M. (1)	400
Dorothy & Everett (1)	1,100	Metacomet (2)	9,300
Ebenezer (1)	700	Morning Star (4)	5,800
Eleanor K. (1)	500	Priscilla V. (2)	52,800
Elva L. Beal (2)	3,500	Pvt. Frank Kessler (1)	8,700
Eugene H. (2)	121,900	Question (4)	11,800
Eva Clark (8)	7,100	Reliance (3)	4,300
Evelyn F. (3)	1,100	Roann (1)	16,000
Genevieve D. (5)	3,100	Russell S. (1)	2,100
Harvest (1)	800	R. W. Griffin, Jr. (2)	83,700
Helen Mae (5)	4,000	St. George (5)	3,000
Intrepid (2)	2,200	Sankaty Head (1)	2,700
Irene (3)	11,700	Sonya (1)	5,600
Jen-Walt (4)	6,000		

Scallop Landings (Lbs.)

B. Estelle Burke (1)	10,125	Mary R. Mullins (1)	1,125
Gloria F. (1)	3,200	New Dawn (1)	2,884
Jerry & Jimmy (1)	4,400	Palestine (2)	19,814
Julia K. (2)	9,591	Pearl Harbor (1)	10,125
Maridor (1)	2,400		

Swordfish Landings (Lbs.)

Christine & Dan (1)	15,100	Southern Cross (1)	11,100
Dorothy & Everett (1)	400	Three Bells (1)	8,500
Papoose (1)	4,300		

NEW YORK

Scallop Landings (Gals.)

Beatrice & Ida (3)	3,350	Norseman (1)	1,000
Buzz & Billy (2)	2,250	Olive M. Williams (2)	2,225
Carol-Jack (1)	1,160	Phyllis J. (1)	625
Catherine C. (1)	1,100	Rainbow (2)	1,975
Clipper (2)	2,255	Reid (2)	2,200
Enterprise (2)	2,200	Richard Lance (2)	2,200
Florence B. (2)	2,225	Rockaway Belle (2)	1,325
Juta (1)	550	St. Rita (2)	1,400
Malvina B. (2)	2,200	S. No. 31 (2)	2,200
Miriam A. (1)	1,100	Susan (2)	2,040
Nelfred (1)	425	Whaling City (3)	3,200

STONINGTON, CONN.

America (3)	12,600	Laura (12)	2,800
Bette Ann (17)	19,600	Lt. Thomas Minor (3)	1,100
Betty Boop (15)	19,900	Lisboa (13)	7,900
Carl J. (2)	8,000	Little Chief (18)	15,000
Carolyn & Gary (17)	28,000	Marise (7)	4,100
Catherine (11)	12,100	Mary A. (15)	16,700
Connie M. (18)	15,300	Mary H. (10)	6,700
Conquest (12)	14,000	Old Mystic (14)	15,600
Eleanor (13)	3,600	Our Gang (3)	13,700
Fairweather (15)	28,400	Rose L. (4)	400
Five Sisters (9)	54,200	Russell S. (5)	27,000
Harold (15)	12,900	Theresa (5)	11,500
Irene & Walter (18)	39,100	William B. (20)	110,200
Jane Dore (12)	14,300	Wm. Chesebrough (1)	900

GLOUCESTER

Althea (3)	30,000	Falcon (6)	135,000
Alvan T. Fuller (1)	85,000	Felicia (1)	220,000
Anna Guarino (7)	77,000	Florence & Lee (1)	180,000
Annie (8)	36,000	Flow (1)	275,000
Anthony & Josephine (8)	152,000	Frances R. (9)	206,000
Atlantic (2)	118,000	Francis L. MacPherson (1)	135,000
		Frankie & Jeanne (6)	52,000
Baby Rose (1)	34,000		
Benjamin C. (1)	200,000	Gaetano S. (1)	130,000
Billy B. (5)	27,500	Gertrude E. (6)	31,500
Bobby & Jack (3)	125,000	Golden Eagle (1)	125,000
Bonaventure (1)	150,000		
Breaker (1)	210,000	Hazel B. (1)	100,000
Brookline (1)	200,000	Helen B. (6)	87,000
		Holy Family (1)	160,000
California (5)	19,000	Holy Name (4)	31,500
Cara Cara (1)	125,000		
Carlo & Vince (9)	130,500	Ida & Joseph (2)	22,000
Carol Jean (2)	54,000	Immaculate Concep'n (8)	167,000
Catherine (6)	72,000	Intrepid (2)	7,000
Catherine Amirault (1)	170,000	Irma Virginia (8)	113,000
Catherine L. Brown (1)	80,000	Isabelle J. II (1)	3,000
Charlotte M. (1)	90,000		
Chebeague (8)	121,500	Jackie B. (1)	35,000
Cherokee (2)	52,000	Jackson & Arthur (7)	59,000
Clipper (1)	150,000	J. B. Junior (9)	205,000
Columbia (1)	180,000	Jean & Patricia (1)	600
Courier (1)	175,000	Jennie & Julia (3)	90,000
Curlew (1)	162,000	Joe D'Ambrosio (1)	3,000
		Johnny Baby (9)	87,000
Dawn (10)	91,000	Joseph & Lucia (1)	140,000
Della Mae (1)	160,000	Josie II (7)	71,000
Dolphin (2)	155,000		
Doris H. (2)	3,500	Killarney (1)	150,000
		Kingfisher (1)	220,000
Edith L. Boudreau (1)	70,000		
Ellen B. (1)	13,000	Lady of Good Voyage (1)	70,000
Emily Brown (1)	175,000	Limit (2)	7,000
Estrela (1)	200,000	Linda B. (10)	88,000
Eva II (4)	11,000	Little Flower (6)	101,000
Evelina M. Goulart (1)	70,000	Little Joe (8)	156,000
		Lois T. (6)	94,000

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Gloucester Landings (Continued)

Lone Ranger (2)	13,500	Rose & Lucy (4)	33,500
Lorine III (1)	2,000	Rosemarie (4)	108,000
Lucille B. (4)	19,000	Rosie & Gracie (2)	9,000
Lucy Scola (5)	63,000	Rosie C. (4)	27,000
Madame X (6)	13,500	Sacred Heart (7)	96,000
Malolo (2)	120,000	St. Anthony (2)	225,000
Manuel P. Domingos (1)	120,000	St. Francis (6)	121,000
Margaret Marie (4)	62,000	St. John (7)	56,500
Margie & Roy (1)	1,000	St. Joseph (1)	36,500
Margie L. (4)	60,000	St. Mary (9)	231,000
Maria Immaculata (13)	238,000	St. Nicholas (1)	180,000
Marion & Alice (1)	105,000	St. Providenza (14)	133,500
Maris Stella (1)	160,000	St. Theresa (1)	25,500
Marjorie C. (1)	10,000	Salvatore & Grace (3)	48,000
Mary (12)	143,000	Sammy C. (2)	2,000
Mary & Josephine (1)	210,000	Santina D. (2)	21,000
Mary E. (8)	77,000	Sea Dog (3)	46,000
Mary Jane (2)	230,000	Sea Hawk (2)	210,000
Mary Rose (1)	160,000	Sea Rambler (1)	30,000
Mary W. (2)	15,000	Sebastiana (2)	55,000
Michael F. Dinsmore (1)	63,000	Sebastiana C. (8)	171,000
Mocking Bird (1)	87,000	Serafina N. (7)	214,000
Mother Ann (1)	260,000	Serafina II (1)	11,000
		South Sea (2)	122,000
Natale III (4)	32,000	Superior (4)	68,300
No More (13)	140,500	Sylvester F. Whalen (1)	160,000
North Sea (2)	350,000		
Nova Luna (3)	3,400	Theresa M. Boudreau (1)	180,000
Novelty (6)	72,000	Tina B. (1)	60,000
Nyanza (1)	2,000	Trimembral (9)	108,000
Nyoda (2)	25,600		
		Villanova (1)	100,000
Ocean Life (1)	400,000	Virginia Ann (8)	142,000
Our Lady of Fatima (1)	220,000		
		We Three (6)	115,500
Phillip & Grace (1)	120,000	White Owl (6)	69,000
Pioneer (8)	111,000	Whitestone (1)	40,000
P. K. Hunt (2)	140,000	Wild Duck (1)	150,000
Positive (1)	100,000	Winthrop (1)	180,000
Priscilla (2)	2,000	Yankee (1)	37,000
Puritan (2)	250,000		

Scallop Landings (Gals.)

Nellie-Pet (2)	2,111

Connecticut Has Heavy Oyster Set in Bridgeport Area

The second wave of setting of oysters in Long Island Sound still was under way the latter part of August. According to the Milford Fish & Wildlife Service laboratory, the intensity of setting was not uniform but largely confined to the Bridgeport area, where it was the heaviest in many years.

The setting showed an increase in intensity at some of the New Haven stations promising, perhaps, a commercially significant crop of young oysters. This contention was supported by observations at the laboratory's auxiliary stations, of which Station 11 located on Lot 152 near Old Lighthouse on the eastern shore of New Haven Harbor, gave recent counts of approximately 40 spat per 20 shells.

Since a high percentage of the recently set oysters found on the laboratory's collectors on August 27 was only one day old or younger, it was assumed that the setting would continue for several more days. This applied not only to the Bridgeport area but also to some stations of the New Haven and Milford districts.

Examination of adult oysters showed that approximately 92 per cent of the population was entirely spawned out the latter part of August, while the remaining 8 per cent contained only relatively small quantities of spawn. Thus, spawning of oysters was reaching its end.

Setting of starfish is still extremely light and limited to the Bridgeport area. A single starfish set was found in each case on August 22 and 24 at Station 10.

Minimum Size for Crabs

Connecticut State Game Warden Lawrence W. Theiss of Guilford recently called attention of crab fishermen to the fact that hard shell blue crabs must measure a minimum of five inches. Theiss pointed out that the law regulating the size of the shellfish was changed about three years ago. Soft shell crabs with a minimum size of three and one half inches may be kept.

Canadian Report

By C. A. Dixon

Make Big Pollock Catches

Unusually large catches of pollock were made in August in the Passamaquoddy Bay area, one weir in particular at Deer Island having taken more than 50,000 of the fish by the middle of the month and more subsequently. An excellent demand existed at the fishing port of Wilson's Beach in southern New Brunswick, where Jackson Bros. and O'Hara's subsidiary plant at Campobello bought the fish for salting.

The pollock strike provided one weir crew with a stock of between $7,000 and $8,000 in a very short time, as many as 6,000 fish having been taken in a single seining. Not for many years have pollock in such quantities inhabited the shore waters along the eastern part of Deer Island.

A number of weirs caught varying quantities of the fish which were sold for 2¢ a pound. It is understood the fish averaged from 15 to 20¢ each. Pollock hand-liners, however, did not fare so well, as the fish schools left the regular fishing grounds to chase small herring along the shores.

Immense schools of squid are still present in southern New Brunswick waters for the first time in many years. Fishermen at Campobello have no difficulty in dipping all the squid they need under the harbor light at the Wilson's Beach breakwater, where the squid congregate during the night. Many are found also in sardine weirs at Deer Island.

The appearance of the squid this year has proved a great help to hand-liners and long-liners. In spite of the fact that a considerable number of fishing boats have been converted to draggers or new ones built and equipped, long-liners still operate on rough bottom where drags are of little use. Catches have been good.

Schools of Small Herring Appear

After waiting all Summer patiently or impatiently for the appearance of sardine schools in southern New Brunswick waters, weir fishermen found plenty of the little fish in their weirs from the middle of August on—but little fish they were, and the bulk of the catches had to be sold for $5.00 a hogshead to be used for fish meal and fertilizer.

Catches in weirs at Deer Island and vicinity ran from 20 to more than 70 hogsheads some days. Some of the fish were sold for sardine canning, but only the larger ones among them could be packed. One canner said about 40 per cent of each hogshead could be used for canning. The Canadian factories have been in more or less steady operation since August came in.

However, fishermen were about convinced the end of August that the 1953 sardine season would be practically a total failure. There had been some hope that the schools of brit would remain in weir fishing areas long enough to permit them to grow to sardine size and that considerable quantities could be sold this Fall. But the appearance of vast hordes of silver hake (whiting) in the Passamaquoddy Bay region dashed all hope insofar as can be determined.

Literally thousands of hogsheads of the hake rushed along the shores driving the small herring hither and yon. Single catches of the hake in some weirs were as high as 50 hogsheads or more. The unprecedented hake run drove all the sardines from the Deer Island area into St. Andrews Bay, where during the latter part of August large quantities of the brit were caught and sold for fertilizer.

There has been a decided increase in the demand for herring scales, and scalers and boatmen alike are sharing in income from this industry, although prices are low as compared to those paid in past years.

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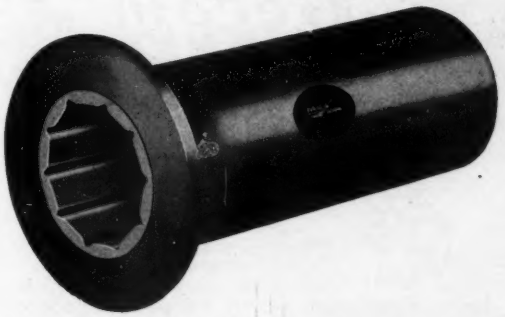

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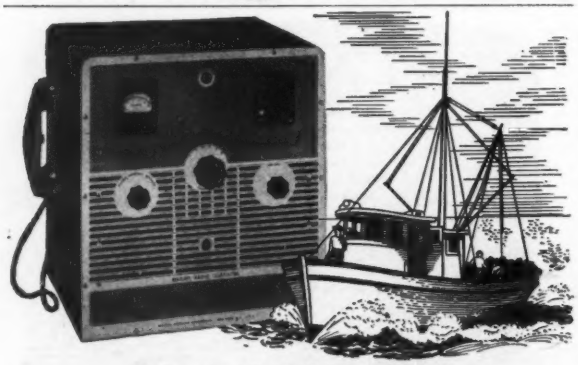

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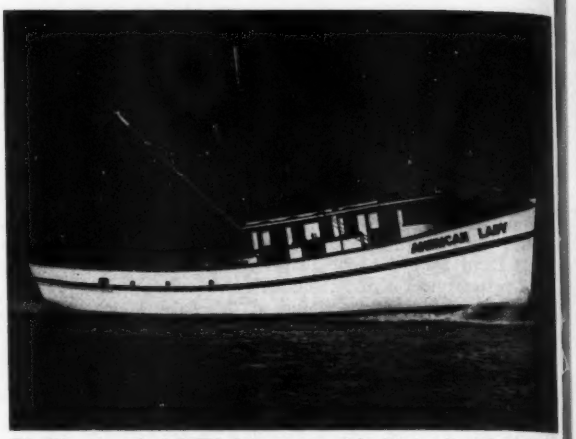


The "American Lady", 73' shrimper owned by Marion Duzich of Aransas Pass, Texas, and skippered by Capt. Guy Aloisio. Built in 1952 by Conrad Industries, Morgan City, La., she is powered with a General Motors 6-110 Diesel rated 190 hp., which turns 54 x 40 Columbian propeller. Other equipment includes Ederer nets, Stroudsburg hoist, Northill anchor, Bendix depth sounder and Southland batteries.

Texas Shrimp Landings Heavy During August

August weather was favorable for offshore shrimping. The heat during daylight hours was intense for the first three weeks, but the nights were calm permitting close inshore shrimping with good results. Good weather also prevailed in the lower Gulf, accounting for heavy landings of shrimp there.

Shrimp landings during the 30-day period beginning July 25 showed an increase over that of the preceding period. Galveston reported 4,434 barrels; 2 per cent whites, remainder grooved brown, sizes from 15-20 to 30-35. Most were 21-30.

Galveston dealers report that very few shrimp have been taken in waters close to shore. Best hauls have been made in waters 12 to 20 miles out in the Gulf.

Port Lavaca and Palacios had 3,591 barrels; 3 per cent white, remainder brown grooved; few 15-20 count, most 21-30; some 30-42.

Aransas Pass, Rockport, and Corpus Christi reported 10,410 barrels; 1 per cent white, remainder grooved brown; few 15-20, most 21-25, some 31 and smaller. Port Isabel and Brownsville had 18,953 barrels of grooved brown; few 15-20, most 20-30.

Fish Catches Are Good

Landings of edible finfish from bays have been average. Production of black drum and speckled sea trout have been ahead of last year. Red drum production was below average, and flounders were scarce.

Production of deep sea fish was good. Red snapper production was up, with warsaw, grouper and ling plentiful. Large catches of mackerel, kings, bluefish, and pompano were taken by hook-and-line fishermen off the middle and lower coast.

New Seining Law in Effect

A new seining law passed by the last Texas Legislature went into effect August 26, and will control seining activities in Cameron County's section of Laguna Madre.

Few measures affecting commercial fishing in this state have caused so much controversy. Known originally as House Bill 24, the new law bans the use of nets in the lagoon. The only exception to the requirement that boats will not be permitted to carry nets is made in the case of boats using the ship channel between buoys. This will

enable shrimpers to carry their nets through the lagoon in order to reach offshore waters.

Opponents of the bill contended that many commercial fishermen would be forced out of business, and that fish prices in the state would increase.

To Study Breeding of Shrimp

Albert Collier, Chief of the Gulf Fishery Investigations, which is located at Galveston, has announced that his organization will make a study of the breeding of shrimp. "After three years of studies on underwater plankton and marine life in the Gulf of Mexico," Collier pointed out, "we are now ready to put our chemical and biological discoveries to specific use." Collier stated that his department may have to rely somewhat on local shrimp dealers to supply ripe spawning shrimp.

At the laboratory of the Gulf Fishery Investigations, which is part of the Fish & Wildlife Service, the eggs of the shrimp will be hatched and grown. Collier said the growth will be studied and efforts will be made to find environmental and biological conditions in which shrimp best breed and develop. In addition, the laboratory also will try to find out why the supply of white shrimp is decreasing each year and why brown or Brazilian shrimp can be found only at night.

Prejudice Against Brown Shrimp

A move is underway by Texas shrimp dealers to educate the public to the fact that there is little difference between white and brown varieties of shrimp. Many consumers hesitate about buying brown shrimp because of a misconception that they have considerable more iodine. This is said to result in depressing the brown shrimp price. Albert Collier of the Fish & Wildlife Service points out that the amount of iodine in shrimp depends on the shrimp's feeding substance.

Shrimper "Sanne C." Burns

The shrimper *Sanne C.*, a 50-footer valued at $30,000, was destroyed by fire August 18 near the Port Bolivar Yacht Basin. A short circuit in the wiring is thought to have caused the midnight fire on the boat, which was owned by J. W. Blume of Galveston.

Two New Herndon Trawlers Being Rigged

The 60′ x 18½′ *Southern Queen* and *Southern Breeze*, new Herndon trawlers at Corpus Christi, have been delivered by Sarris Brothers of Tarpon Springs, Fla. Both are powered with 120 hp. Caterpillar D13000 Diesels.

The boats are being rigged with mast, booms, and gear at the Herndon wharf. They are expected to make their first trip about September 20.

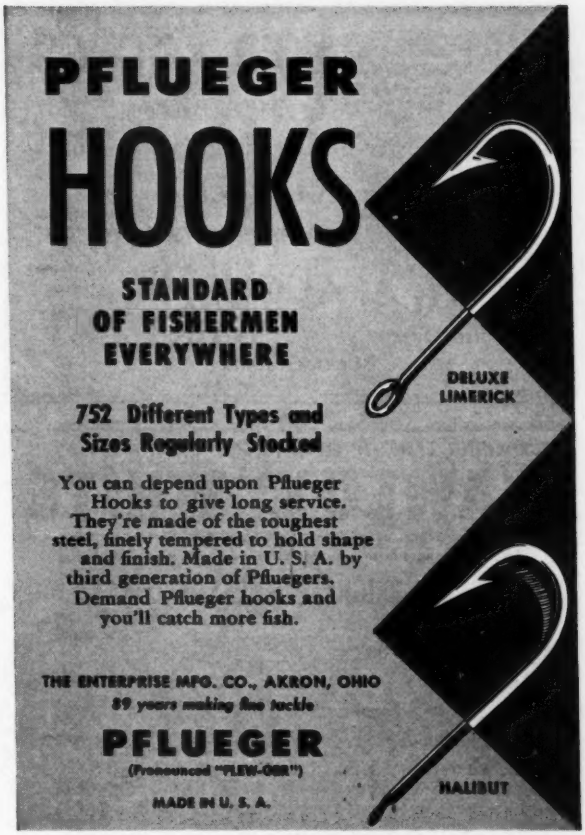
Inland Bays Opened to Larger Trawls

The Texas Game and Fish Commission on August 31 opened inland bays and waters of the State to shrimp trawls with a spread of more than 10 feet. The unlimited trawl season will close December 15, unless other regulations are issued in the interim.

Four Boats Change Ownership

Four commercial fishing boats have changed hands at Galveston. Western Shell Fish Company, Inc., purchased two 50′ shrimp boats, the 3-year-old *Lily Milan* and the 10-year-old *Michael D.*, both powered by 165 hp. General Motors Diesels. The boats will be assigned to Western Shellfish's fleet at Brownsville, Texas.

Two Galveston deepsea party fishing boats were sold by Joe Varnell to Carl, Joe and Raymond Muchowich, shrimpers at Freeport. The boats were the 52′ x 15′ *Sunrise*, powered by two 4-cylinder General Motors Diesels; and 45′ x 16′ *Dorothy M.*, powered by a 6-cylinder General Motors Diesel. The boats will be used for party fishing as well as shrimping by the new owners at Freeport.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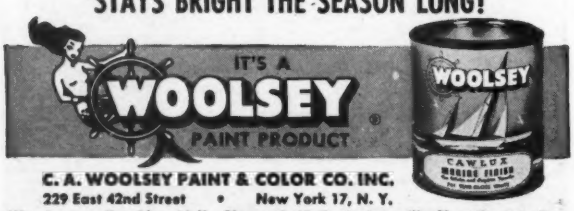

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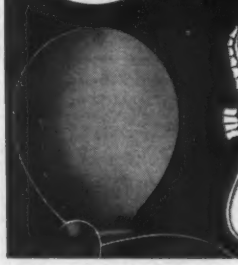

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Vineyard Bailings

By J. C. Allen

It is drawing on close to a quarter-century since we wrote up the first log for *Atlantic Fisherman.* Looking back over those early columns for perhaps 10 to 15 years, it doesn't appear to us that our attitude or outlook differed a hell of a lot from that of any other dweller alongshore. The activities of the sea-skimmers operating in an area of perhaps three hundred miles in diameter around our Island followed a pretty definite pattern. Spring fish showed up in certain bearings at about a certain time. Summer fish struck on and moved through the bearings, heading generally, in the same direction as they had been doing for centuries. Looking back it seems as if the whole thing worked out on a schedule that never missed fire.

Yet it was apparent then, only nobody paid much attention to the fact, that there was a movement of men, fish and boats into the nor'east at certain seasons of every year. Noticeable then was the behavior of the swordfish, especially in a hot Summer; and we can locate in our log many and many instances where we reported the fleet running down to the grounds off Nova Scotia for the month of August. It was an accepted thing.

We can recall, without difficulty, when the handliners stood to the sou'west of Nomansland for the Fall run of fish, and always found 'em. And we can likewise locate without any trouble, our own report of draggers, a few years later, running to the east'erd of Nomans, after the same sort of fish. As we say, nobody paid much attention to this, least of all, ourself.

But with the passage of years the change has become so great that we have begun to speak of it in all of our reports. We have harped on the theory that something is happening. Within three to four years we have pinpointed the warm Winters and especially rising ocean temperatures as being one of the causes, if not the principal one, for the change in the fisheries.

Swordfishing Better Than Expected

Swordfishing, once the mainstay of Summer for a large fleet, has been better than we anticipated. We grant it. But it has not been as good as in many other years, neither as to the number of fish taken nor the price received for 'em. And all the while the set of fish and fishermen is into the nor'east.

The heft of the groundfish landed at our local markets for better than a month has not been from the grounds 120 to 150 miles away which have been fished for generations by our own gang. No, they have come from 500 miles away off Sable Island.

We know that vessels fished for cod all through last Winter off the Greenland coast where such a thing never happened before in the memory of man. And within the span of August, some of the brass-bound scientists have made public statements which go along with some of our own, relative to water temperatures, only, damn it, we said it first!

It's not enough for us today to look things over locally and make a word-picture of what we can see. We have questions to ask, if anyone can answer them. Mainly this: what are the southern fish doing—the varieties never taken north of the Georgia coast. And we would like to know, too, whether the water temperatures off Florida are going up, or merely holding their own.

Will Southern Species Move North?

Is there reason to believe that the southern varieties of fish will move north, either because our ocean is becoming warmer, or because of this and increasing heat off Florida and in the Gulf? For some time our local sea-skimmers have been asking this question.

We offer the opinion for what it is worth, that if anyone is going to do any more real lobstering hereabouts, it

will have to be done in the Winter, Fall or Spring, or all three. Summer lobster fishing is all done unless the climate changes back again.

We suggest that southern waters are not becoming hotter, and that there is no existing condition which might cause southern varieties to spread until they reach the Temperate Zone in these latitudes.

We have to wonder what effect, if any, this change may have upon our shellfisheries. Quahaugs, clams and scallops have provided us with an important chunk of income for years. Will they continue to thrive, or not, and if they do, will warm water bring new critters to prey upon them?

Maybe we are unduly concerned. But we have lived alongside of the fisheries for a long time, and we have seen a good deal happen, some of which was supposed to be impossible.

Georgia Waters Yield First Baby Swordfish in U. S.

The 100' U. S. Fish and Wildlife Service research vessel *Theodore N. Gill*, working in previously unexplored waters of the Gulf Stream off Brunswick, netted the first baby swordfish ever taken in American waters—an indication that an important breeding ground may exist off the Georgia coast. The only previous catch of young swordfish was reported in the Mediterranean Sea off Sicily a number of years ago.

The *Gill*, of West Coast fisherman design, took the baby swordfish while making general studies of the Gulf Stream 100 miles east of Brunswick on July 29. The 15 tiny swordfish ranged in length from one quarter to three quarters of an inch, and a dozen young sailfish of about the same length and several baby dolphins also were netted. The tiny sailfish are just as rare as the swordfish. William W. Anderson, Fish and Wildlife Service marine biologist, was in charge of the investigation.

No one knows much about the habits of swordfish. They arrive in New England waters, and off Nova Scotia, during the Summer. A few fall victim to the hooks of commercial and sportfishermen, and then they leave. Other times of the year they show up thousands of miles away. The scientists don't know how long they live or where they go to spawn.

The size of the swordfish taken by the scientists aboard the *Gill* would indicate that the fish were only a few days old and that the spawning area, consequently, was not too far off. The little fish were perfectly formed, colored "a beautiful blue" and had both upper and lower beaks of about the same length. The tiny sailfish were described as short and chunky, lacking long beaks and the adult fins.

The *Gill* was working in about 300 fathoms of water at the time, but the little swordfish and sailfish were taken near the surface in dip nets and plankton nets. Rarity of the catch is shown by the available literature on the subject, which lists the smallest broadbill taken in American waters as a fish weighing seven and a half pounds. This specimen was taken by the schooner *Anna* off Georges Bank in 1922. Only a few adults bearing eggs have been caught in New England waters.

The careful scientific work touched off by the discovery of the baby swordfish has barely begun. As a routine practice, water samples are taken from all depths as the *Gill* moves slowly over a section of the ocean. The samples taken at the time the young swordfish were found will be studied in laboratories in an effort to find eggs to provide further proof of a major spawning area off the Georgia coast.

Further studies based on the recent find will be carried out by George Arata of the Florida State Board of Conservation, who will work on the swordfish material; Frank Knapp of the Georgia Game and Fish Commission, who will investigate the dolphin; and Jack Gehringer of the Fish and Wildlife Service, who will study the sailfish data.

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Nautical Facts

Courtesy of "Proceedings of the Merchant Marine Council"

Q. What should a watch officer do upon seeing a fog setting in?

A. If near land, take a bearing on any point, buoy, lighthouse, or lightship that may be in sight; call the master; post proper lookouts; give the prescribed fog signals; and go at a moderate speed. If the fog signal of another vessel is heard forward of the beam, stop the engines and navigate with caution.

Q. In piloting a vessel through a curved section of a tidal river, where would you find the deepest water and the most rapid current?

A. In the curved portion of the river, the swiftest current and deepest water is toward the outer edge of the curve.

Q. Entering port, how can one tell by observation which direction the tide is setting?

A. By noting the direction in which the buoys are inclined, especially spar buoys.

Q. Approaching a coast on a misty night you expect to pick up a certain light having definite characteristics. Two hours before you expect to sight the light you pick up a light showing different characteristics not definitely recognized. As captain, what would you do?

A. Stop; have a sounding taken and request radio compass bearings. With the sounding and the bearing of the light try for an approximate fix by plotting the light bearing on all probable aids to navigation as the characteristic of the expected light may have been changed and the "Notice to Mariners" not yet received by the ship, or the light may have been changed on account of some derangement. If the soundings showed the ship inside a safe depth curve, anchor until the position is satisfactorily determined.

Q. What is the smallest applicable safety factor for rope?

A. The safety factor should never be less than five. In other words, the safeworking load should never exceed one-fifth of the breaking stress.

Q. Which anchor is preferable to let go in the Northern Hemisphere and why?

A. The port anchor, as in the Northern Hemisphere the wind shifts to the right. Then should it be necessary to let go the second anchor, there will be no danger of fouling it as the cables will lead clear of each other.

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Rates: $1.00 per line, $5.00 minimum charge. Count 9 words to a line. Closing date, 25th of month. Atlantic Fisherman, Goffstown, N. H.

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Fully equipped 42' oyster dredger, Palmer engine (new), 125 hp., shallow water boat, draws 2'9". Now in commission on Barnegat Bay. Priced for quick sale. Contact: Shaw, 413 East 87th St., New York City.

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SKIFF WANTED

Skiff about 28 ft. similar to type the pot fishermen use. Motor not important. Send price and particulars to H. W. Barraclough, Port Republic, N. J. Phone Pleasantville, N. J. 164J1.

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Marine Diesel like new. Atlas marine Diesel engine, 425 hp. @ 325 rpm., 13 x 16, DR Kingsbury thrust, front end shaft for power take-off. Navy surplus. Price $15,000, F.O.B. Brooklyn, N. Y. Phone, write, wire—Gilbert Schwartz, 7 W. 22nd St., New York, N. Y.—Oregon 5-2440.

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Commercial and pleasure craft—"A boat to suit your requirements." Edwin B. Athearn, Marine Broker, Oyster Pond Road, Falmouth, Mass. Tel. 2074, or 184½ Middle St., Portland 3, Maine. Tel. 5-0439.

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DRAGGER FOR SALE

Dragger *Robert & Edwin*, length 62', width 14.4', depth 7.1'. 85 hp. Atlas engine. For information call or write Anthony Ciuffo, 45 Fleet St., Boston, Mass. Telephone Laf. 3-6690.

DRAGGER FOR SALE

For sale, 50' dragger, good condition, completely rigged for dragging or scalloping, 165 hp. GM Diesel engine, 3:1 reduction gear, radio and Fathometer. Will ice 18,000. Owner retiring. For information write or call S. Santos, 164A Bradford St., Provincetown, Mass. Tel. 933.

DRAGGER FOR SALE

Dragger *Ranger*, Stonington, Conn., 58 ft., Maine built, 171 hp. Buda, Fathometer, telephone, direction finder, Loran. Excellent condition—gear included. Boat now fishing. Price reasonable. Write Capt. John W. Smith, 40 Williams Ave., Mystic, Conn.

FIVE UNUSED ATLAS DIESEL ENGINES FOR SALE
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Five 4-cylinder 8 x 10½" Atlas heavy duty marine Diesel engines, Model 38S3-4, each rated 85/100 hp. @ 450 rpm., and each complete with reverse gear and clutch, exhaust pyrometer and silencer, starting air tank and standard sets of equipment, tools and spares. Built in 1951 but never used, in fact still on original shipping skids. Hundreds of these engines in use.

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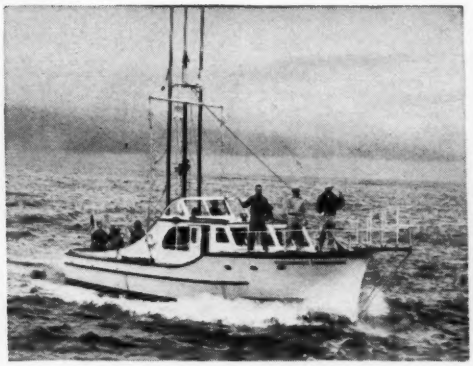
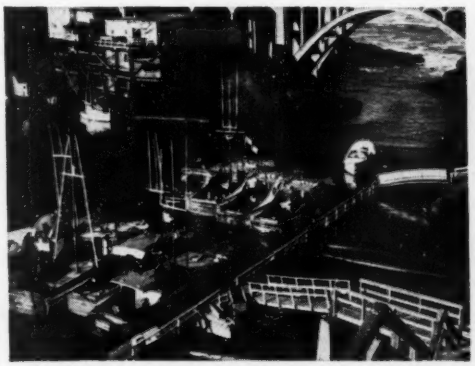
"Depoe Bay, Oregon. Here we are about ready to shove off for the fishing grounds and a date with some 'big ones' out in the blue Pacific.



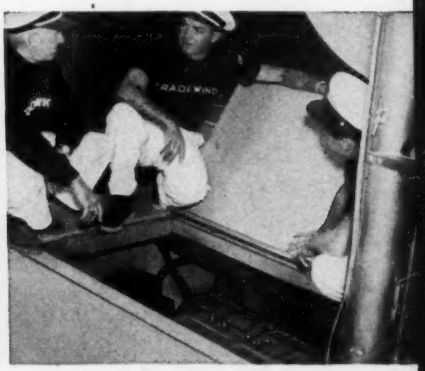
"On the way out, the Skipper told us we should catch about fifty fish between the eight of us aboard the fifty-foot 'Kingfisher,' flagship of the Tradewinds fleet.

"That was the shortest and most enjoyable four hours I've ever spent, caught seven beauties. These boats are beauties, too! Everything deluxe!

"Here's our proof! 'X' marks my seven. I understand the 16 boats of the Tradewinds Troller Fleet took 50,000 fishermen out in 1952.



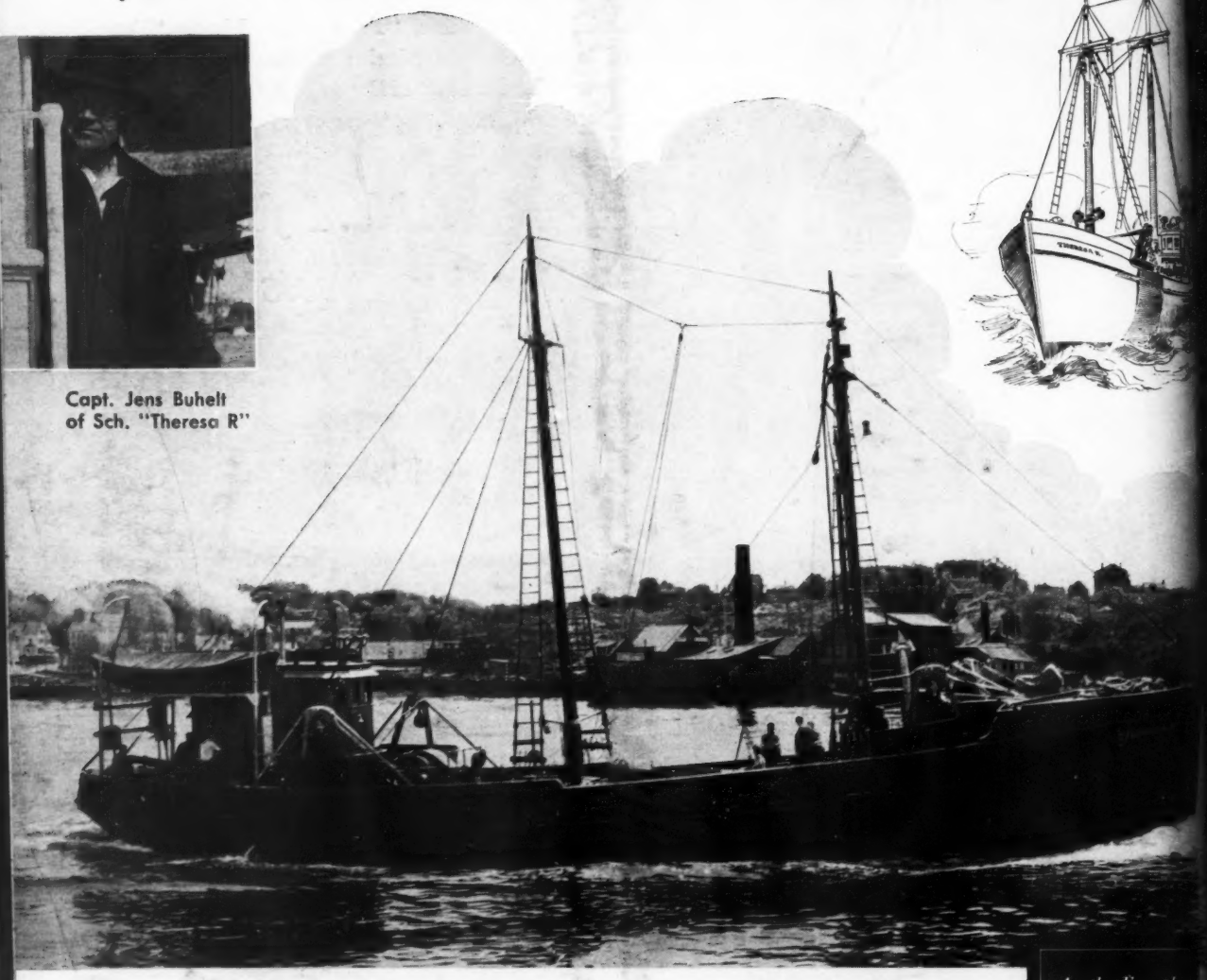
"Here's part of the Tradewinds fleet. The 'Kingfisher' is Chrysler-powered which probably explains how we got out so quickly, yet trolled so nice and smooth.



"Captain Stan Allyn, in the middle, co-owner and manager of Tradewinds, told me he's never yet found an engine that beats Chrysler."

For further information, write: Dept. 99, Marine Engine Division, Chrysler Corporation, Trenton, Michigan.

Capt. Jens Buhelt
of Sch. "Theresa R"



THERESA R, 96-foot dragger, is owned and operated by Harris Bros. of Portland, Maine, and fishes out of that port. She now has a new 350-hp Cooper-Bessemer diesel replacing a 250-hp, 8-year-old Cooper-Bessemer.

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How an "eight-year-old" picked THERESA R's new diesel

• For 8 years of hard driven service, a 250-horsepower Cooper-Bessemer diesel gave the THERESA R outstanding, low-cost performance. So when it came to repowering, to meet today's need for more remote fishing and greater speed, the "eight-year-old" quite naturally influenced the installation of another, more powerful Cooper-Bessemer.

Although the old Cooper-Bessemer was in perfect condition, ready for many more years of service, the new Cooper-Bessemer, a 350-hp diesel, gives the THERESA R 100 additional horsepower.

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